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PHYSICAL FACILITIES FOR HIGHER EDUCATION IN OKLAHOMA.
SELF-STUDY OF HIGHER EDUCATION IN OKLAHOMA.
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THE REPORT IS A SELF-STUDY OF THE PHYSICAL FACILITIES OF 21 INSTITUTIONS OF HIGHER EDUCATION IN OKLAHOMA. IT INVOLVED THE STUDY OF SUCH TOPICS AS--(1) THE INVENTORY AND EVALUATION OF EXISTING LAND AND BUILDINGS ACCORDING TO CURRENT AND REPLACEMENT VALUE, AGE, QUALITY AND FUTURE USE, (2) THE INVENTORY OF ASSIGNABLE SPACE BY SQUARE FOOTAGE, DISTRIBUTION AND NUMBER OF ROOMS WITHIN ROOM TYPE AND FUNCTION, (3) THE UTILIZATION OF CLASSROOMS AND LABORATORIES BY DAY OF WEEK, HOUR OF DAY, ROOM CAPACITY AND ASSIGNMENT, AND (4) THE PROJECTION OF SPACE NEEDS AND ESTIMATED PHYSICAL PLANT COSTS. DATA WERE COLLECTED BY THE PARTICIPATING INSTITUTIONS AND EVALUATIONS WERE MADE BY A VISITATION TEAM OF RESEARCH STAFF. FORMS USED IN THE STUDY ARE INCLUDED. A NUMBER OF SPECIFIC RECOMMENDATIONS WERE PRESENTED, THE THRUST OF WHICH WAS THAT THE STATE OFFICIALS AND COLLEGE OFFICIALS SHOULD COOPERATE IN THE MAINTENANCE AND IMPROVEMENT OF PRESENT FACILITIES AND LONG-RANGE PLANNING OF NEEDED EDUCATIONAL FACILITIES. (HH)

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PHYSICAL FACILITIES FOR HIGHER EDUCATION IN OKLAHOMA

SELF-STUDY OF HIGHER EDUCATION IN OKLAHOMA — REPORT 5

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Oklahoma State Regents for Higher Education
State Capitol, Oklahoma City

December, 1964

Preface

In July of 1961, the Twenty-Eighth Oklahoma Legislature enacted House Bill No. 553 requesting the Oklahoma State Regents for Higher Education to undertake a comprehensive study of higher education. The State Regents met promptly to consider the Legislature's request and on July 31, 1961, authorized the higher education study and directed the Chancellor to develop plans for its accomplishment.

In January of 1962, the Chancellor submitted to the State Regents a plan for conducting the comprehensive self-study of Oklahoma higher education. This plan, adopted by the State Regents, sets forth in detail the purpose of the state-wide self-study, major problem areas to be included, procedures to be followed, and the time schedule for completing various phases of the study. This plan, entitled *Organization and Plan—Report I, Self-Study of Higher Education in Oklahoma,* has been carefully followed in the conduct of the study.

The plan provided for the total study to be conducted in two phases. The first phase, to be completed the first year, includes a study of three problem areas; higher education enrollments; obtaining, retaining and utilizing faculties; and financing current operating costs. The second phase includes an analysis of four problem areas: functions and goals; control and administration; higher education opportunities and needs; and physical facilities.

The reporting procedure approved by the State Regents provides for a report to be published on each problem area as study is completed. In addition to the reports on the seven problem areas pertaining to colleges and universities, there will be a separate report on the seven other constituent agencies in the State System. Also, there will be a final report which will summarize the findings, conclusions and recommendations of the whole self-study.

Officially the study encompasses the eighteen state colleges and universities and the seven other constituent agencies of The Oklahoma State System of Higher Education. However, to provide as full a picture as possible of the situation in all Oklahoma higher education, the study also includes fifteen independent and municipal colleges and universities. All private institutions participated in the first three problem area studies. However, because of the nature of the problem, only three participated in the physical plant study.

The State Regents gratefully acknowledge the assistance and cooperation given by the faculties and administrative staffs of the participating colleges and universities. Particular recognition is due those individuals who served on problem area advisory committees, the Advisory Steering Committee, and the Primary Advisory Committee. The State Regents also acknowledge the assistance of the General Consultant, Dr. Norman Burns, Secretary of the North Central Association; Special Consultants Dr. Ernest V. Hollis, Director, College and University Administration Branch, United States Office of Education, and Dr. A. L. Pugsley, Vice-President, Kansas State University; Technical Consultant, Mr. Jack Love; Dr. Arthur McAnally, Director of Libraries at The University of Oklahoma; and Dr. A. J. Brumbaugh of the Southern Regional Education Board.

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Previous Publications of

THE SELF-STUDY OF HIGHER EDUCATION IN OKLAHOMA

Report 1, Organization and Plan for the Self-Study of Higher Education in Oklahoma, by John J. Coffelt, January, 1962.

Plan for the Study of The University of Oklahoma Medical Center, January, 1964.

Report 2, Selecting, Retaining and Utilizing Higher Education Faculties in Oklahoma, by John J. Coffelt, December, 1962.

An Analysis of Faculty Teaching Loads and Student-Credit-Hour Costs, by John J. Coffelt, September, 1962.

Report 3, Oklahoma Higher Education Enrollments and Projections, by Dan S. Hobbs and John J. Coffelt, February, 1963.

Report 4, Financing Current Operating Costs of Higher Education in Oklahoma, by Charles R. Walker and John J. Coffelt, March, 1963.

An Analysis of Current Operating Income and Expenditures, by Charles R. Walker, January, 1963.

TABLE OF CONTENTS

PREFACE iii

LIST OF TABLES AND FIGURES ix

Part I: INTRODUCTION 1
- Need for a Study of Higher Education Physical Facilities 1
- Purpose and Scope of this Report 2
- Topics Not Included 2
- Where the Data Were Obtained 2
- Procedures That Were Used in Making the Study 3
- Limitations of the Data 4
- How Institutions Are Classified in this Report 5

Part II: INVENTORY AND EVALUATION OF LAND AND BUILDINGS 6
- Current Value of Land and Buildings 6
  - Book Value 6
  - Replacement Value 6
- Inventory of Land Holdings 7
- Inventory of Academic Buildings 9
  - Age of Buildings 10
  - Construction Features 10
  - General Quality 12
  - Future Use of Space 14
  - Deferred Maintenance Needs 18
- Inventory of Housing Facilities 18
- General Observations 20
  - Long-Range Campus Planning 20
  - General Care of Plant 20
  - Lighting 21
  - Air Conditioning 21
  - Remodeling and Renovation 21

Part III: INVENTORY OF ASSIGNABLE SPACE 21
- Terms Used in This Section 22
- Inventory by Room Type 23
  - Square Feet of Assignable Space 24
  - Percentage Distribution of Space 29
  - Amount of Assignable Space per FTE Student 30
  - Number of Rooms 31
- Inventory by Function 31
  - Square Feet of Assignable Space 32
  - Percentage Distribution of Space 36
  - Amount of Space per FTE Student 37
- Analysis of Faculty Office Space 37

TABLE OF CONTENTS—Continued

Part IV: UTILIZATION OF GENERAL CLASSROOMS AND TEACHING LABORATORIES 39
- Terms Used in this Section 40
- Size and Capacity of Classrooms and Laboratories 40
- Summary of General Classroom and Teaching Laboratory Utilization 42
  - Utilization of Classrooms 43
  - Utilization of Laboratories 44
- Comparison of Utilization Data with Institutions in Other States 44
- Detailed Analysis of Space Utilization 51
  - Utilization by Day of the Week 51
  - Utilization by Hour of the Day 52
  - Utilization by Capacity of Room 53
  - Utilization by Building 59
  - Utilization by Assignment of Room 59
- Year-Round Plant Utilization 64
  - Why the Trend Toward Year-Round Operation 65
  - Problems of Year-Round Operation 65
  - Implications for Oklahoma Institutions 65

Part V: ADDITIONAL PHYSICAL PLANT NEEDS 66
- Criteria Used in Projecting Space Needs 66
  - Administration and General Space 67
  - General Classroom Space 67
  - Teaching Laboratory Space 68
  - Faculty Office Space 68
  - "Other" Instructional Space 68
  - Library Space 68
  - Physical Plant Service Space 69
  - Gross Square Feet 69
  - Building Costs 69
- Space Projections 70
- Summary of Estimates of Physical Plant Space Costs 74

Part VI: FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS 76
- Findings and Conclusions 76
- Recommendations 79

APPENDIXES

- A. Forms Used in This Study 85
- B. Data Relative to Housing Facilities 91
- C. Plot Plans of Campuses of the 18 Colleges and Universities in the State System 99

LIST OF TABLES AND FIGURES

Tables

1. Summary of Land Holdings and Gross Square Feet of Physical Plant Space in 18 Oklahoma State-Supported Colleges and Universities, Fall, 1963 7
2. Summary of Land Holdings of 21 Oklahoma College and Universities, Fall, 1963 8
3. Amount and Proportion of Outside Gross Square Feet of Physical Plant Space by Age of Building, 21 Oklahoma Colleges and Universities, Fall, 1963 11
4. Amount and Proportion of Outside Gross Square Feet of Physical Plant Space Classified as Permanent or as Temporary Construction, 21 Oklahoma Colleges and Universities, Fall, 1963 12
5. Amount and Proportion of Outside Gross Square Feet of Physical Plant Space In Fire-Resistive and Non-Fire-Resistive Buildings, 21 Oklahoma Colleges and Universities, Fall, 1963 13
6. Amount and Proportion of Outside Gross Square Feet of Physical Plant Space According to the General Quality of Space, 21 Oklahoma Colleges and Universities, Fall, 1963 15
7. Amount of Outside Gross Square Feet of Physical Plant Space in Buildings According to Whether It Can Be Continued in Use Indefinitely or Should Be Abandoned, 21 Oklahoma Colleges and Universities, Fall, 1963 16
8. Percentage Distribution of Outside Gross Square Feet of Physical Plant Space According to Whether It Can Be Continued In Use Indefinitely or Should Be Abandoned, 21 Oklahoma Colleges and Universities, Fall, 1963 17
9. Estimated Major Maintenance and Major Alteration Needs in 21 Oklahoma Colleges and Universities, Fall, 1963 19
10. Amount of Assignable Physical Plant Space by Type of Room in 21 Oklahoma Colleges and Universities, Fall, 1963 25
11. Percentage Distribution of Total Assignable Physical Plant Space to 17 Room Types for 21 Oklahoma Colleges and Universities, Fall, 1963 26
12. Amount of Assignable Physical Plant Space per Full-Time-Equivalent Student by Type of Room in 21 Oklahoma Colleges and Universities, Fall, 1963 27
13. Number of Rooms by Room Type in 21 Oklahoma Colleges and Universities, Fall, 1963 28
14. Amount of Assignable Physical Plant Space by Function in 21 Oklahoma Colleges and Universities, Fall, 1963 33
15. Percentage Distribution of Assignable Physical Plant Space Used for Educational and General Purposes to Seven Functions for 21 Oklahoma Colleges and Universities, Fall, 1963 34
16. Amount of Assignable Physical Plant Space per Full-Time-Equivalent Student by Function in 21 Oklahoma Colleges and Universities, Fall, 1963 35
17. Analysis of Faculty Office Space in 21 Oklahoma Colleges and Universities, Fall, 1963 38
18. An Analysis of General Classroom and Teaching Laboratory Space in 21 Oklahoma Colleges and Universities, Fall, 1963 41
19. Summary of General Classroom Utilization by 21 Oklahoma Colleges and Universities, Fall, 1963 45
20. Summary of Teaching Laboratory Utilization by 21 Oklahoma Colleges and Universities, Fall, 1963 47
21. Room-Period Utilization Scores, Student-Station Utilization Scores, and Scores for "Percentage of Student-Stations Used When Rooms are Actually in Use" in 13 Oklahoma Senior Colleges and Universities as Compared with Comparable Institutions in Other States 48
22. Room-Period Utilization Scores, Student-Station Utilization Scores, and Scores for "Percentage of Student-Stations Used When Rooms are Actually in Use" in Eight Oklahoma Junior Colleges as Compared with Comparable Institutions in Other States 49

LIST OF TABLES AND FIGURES—Continued

23. Utilization of General Classrooms by Day of the Week by 21 Oklahoma Colleges and Universities, Fall, 1963 52
24. Utilization of Teaching Laboratories by Day of the Week by 21 Oklahoma Colleges and Universities, Fall, 1963 53
25. Utilization of General Classrooms by Hour of the Day by 21 Oklahoma Colleges and Universities, Fall, 1963 54
26. Utilization of Teaching Laboratories by Hour of the Day by 21 Oklahoma Colleges and Universities, Fall, 1963 55
27. Utilization of General Classrooms by Capacity of Rooms by 21 Oklahoma Colleges and Universities, Fall, 1963 56
28. Utilization of Teaching Laboratories by Capacity of Room by 21 Oklahoma Colleges and Universities, Fall, 1963 57
29. Percentage Distribution of Room-Periods of Use per Week According to the Student-Station Capacity of All General Classrooms and the Size of Classes Meeting in Them for 21 Oklahoma Colleges and Universities, Fall, 1963 58
30. Percentage Distribution of Room-Periods of Use per Week According to the Student-Station Capacity of All Teaching Laboratories and the Size of Classes Meeting in Them for 21 Oklahoma Colleges and Universities, Fall, 1963 58
31. Per Cent of General Classroom and Teaching Laboratory Room-Period and Student-Station-Period Utilization by Building for 21 Oklahoma Colleges and Universities, Fall, 1963 60
32. Utilization of General Classrooms and Teaching Laboratories by Assignment of Room by 21 Oklahoma Colleges and Universities, Fall, 1963 64
33. Estimated Amount of Additional Physical Plant Space Needed in 21 Oklahoma Colleges and Universities and the Estimated Cost of that Space, Fall, 1963 71
34. Estimated Amount of Additional Assignable Physical Plant Space That Will Be Needed in 21 Oklahoma Colleges and Universities When They Reach the First Assumed Enrollment Plateau and the Estimated Cost of that Space 72
35. Estimated Amount of Additional Assignable Physical Plant Space that Will Be Needed in 21 Oklahoma Colleges and Universities When They Reach the Second Assumed Enrollment Plateau and the Estimated Cost of that Space 73
36. Summary of Estimates of Costs to Provide for Major Maintenance and Alteration, Replacement of Existing Space, and Additional Space Now and at Designated Points in the Future in 21 Oklahoma Colleges and Universities 75

Figures

A. Proportion of Total Assignable Space in 21 Oklahoma Colleges and Universities Used For Nine Room Types 24
B. Proportion of Total Assignable Space in 21 Oklahoma Colleges and Universities Used for All Functions 31
C. Proportion of Total Assignable Space in 21 Oklahoma Colleges and Universities Used for Seven Educational and General Functions 32
D. Comparison of the Per Cent of Utilization of General Classrooms in 21 Oklahoma Colleges and Universities by Type of Institution, Fall, 1963 43
E. Comparison of the Per Cent of Utilization of Teaching Laboratories in 21 Oklahoma Colleges and Universities by Type of Institution, Fall, 1963 46

Part I—Introduction

In recent years the question "Will there be room in college for your son or daughter?" has been bandied about all across the country in magazine articles, television programs, and other communications media. In any consideration of the question, the implication usually has been that there is real danger of lack of space in the years ahead to house all the students who will be seeking to enter college. Indeed, there is adequate justification for this fear. Every projection of college enrollments that has been made in recent years has predicted a very pronounced increase in enrollments, and actual enrollments experienced during the past several years confirm the predictions. Barring the development of circumstances that cannot now be predicted, it would seem that there will very likely be a doubling of enrollments in higher education by 1975.

Although Oklahoma's colleges and universities are not expected to experience enrollment growths to the extent that a few other states will, they are expected to have rates of increase at least equal to the average for the nation. This would mean a growth of from 60,353 students in the state institutions in 1964 to over 110,000 in 1975. Such an increase would be the equivalent of more than four additional institutions the size of The University of Oklahoma or Oklahoma State University. This great expansion of college enrollments, coupled with what very likely will be corresponding increases in research, extension, and public service activities, has caused many to wonder how higher education institutions in Oklahoma will be able to meet the challenge.

Previous reports of the Self-Study of Higher Education in Oklahoma have attempted to communicate the enormity of the tasks that face Oklahoma's colleges and universities in the years ahead. These tasks have been interpreted in light of the resources that are available and the additional resources that will be needed. Specifically, attention has been focused upon the faculty and financial resources that are available and that will need to be made available.

Of obvious importance, too, is the need to consider the adequacy of present physical plant resources to assume the additional burdens that undoubtedly will be thrust upon them. As Oklahoma higher education institutions look ahead to these additional demands that will be made of them, it is clear that they have several alternatives available with respect to physical plant space. They must (1) limit the expansion of enrollments and programs, (2) make greater use of present space, (3) provide additional space, or (4) some combination of the three.

Since the first alternative is not generally consistent with Oklahoma's philosophy of public education, it is unlikely that it will prove to be palatable, at least to the state-supported institutions. Also, it would seem quite difficult, if not impossible, to accomplish the job that lies ahead through resorting to just the second alternative or the third alternative alone. Therefore, institutions will no doubt find it imperative to utilize the two in combination.

For obvious reasons, it would be highly desirable to establish the principle that higher education institutions in Oklahoma will absorb future enrollment growths into the present physical plant space insofar as is possible and that new space will not be constructed until present space is utilized to capacity. At the same time, it would seem desirable to accept the principle that all space used by the institutions be put into a condition satisfactory for the purpose it is to serve.

Need for a Study of Higher Education Physical Facilities

From the beginning of the Self-Study of Higher Education in Oklahoma, emphasis has been placed on the need for Oklahoma's colleges and universities to utilize more effectively their available resources. It has been recognized, however, that in order for institutions to utilize resources better they must have adequate information available. The availability of physical facilities data is just as important in the management of a higher education institution as is information about students, faculties, finance, or programs.

College administrators have a natural tendency to desire to build new buildings since this is a visible source of prestige and growth for the institution. Although few people would argue that the number of buildings per se should be a basic index to the quality of an institution, the fact remains that the public evaluates colleges on that basis to a large extent. In the absence of proper data about physical plant and space requirements, colleges sometimes seek additional space even though the need for it might not be clear. Needless to say, the building of physical plant space is quite costly both in the short run and in the long run. For example, it presently costs around $18,000 to build one average-sized classroom, not including the hallway and other space that is necessary to service the classroom. If one also takes into consideration the expense of maintaining that classroom over the period of its lifetime, it can readily be seen that an institution cannot afford to have idle classrooms around merely to create an impression of spaciousness.

As institutions in Oklahoma grow and are faced with the alternatives of utilizing present space more fully or building additional space, it will be necessary that they have a wealth of information available if they are to make the best possible decisions. For example, it must be known what space is presently available, to what extent the space is being utilized, how many additional students the present space can accommodate, how much and at what point in the future new space will need to be built, how much money will be needed to put present space in proper condition, and how much money will be needed to build additional space.

Purpose and Scope of this Report

The plan for the Self-Study of Higher Education in Oklahoma sets forth the general purposes of the study as follows:

1. To identify the needs of the people of the state for education beyond high school.
2. To make an inventory and analysis of resources—programs, staffs, finances, and facilities—now available for meeting the needs of higher education.
3. To determine ways in which present resources and possible additional resources that may be required may be used to achieve objectives of higher education in Oklahoma.
4. To inform the Governor, the Legislature, and citizens of the state about the problems and needs of Oklahoma higher education and about recommendations for improving its quality and effectiveness.[1]

In keeping with these general purposes, the plan outlines seven problem areas for study, one of which is "Physical Facilities for Higher Education in Oklahoma." It is with that area that this report is concerned. It involves the study of such topics as (1) the inventory of existing land and buildings, (2) inventory of assignable space, (3) space utilization, and (4) projected physical plant needs and costs.

Topics Not Included

The data appearing in this report resulted from a study of the physical plants of 18 colleges and universities in The Oklahoma State System of Higher Education and 3 private colleges and universities in Oklahoma. It does not include space at the University of Oklahoma School of Medicine, the University Hospitals, the OSU School of Technical Training at Okmulgee, or off-campus space used by the Agricultural Experiment Station and the Agricultural Extension Division. Nor does it include any construction that has been completed since the inventory was made, although such construction is taken into consideration in the projections of future building needs.

This report does not include information relative to equipment and equipment needs. Nor does it include data on non-structural improvements such as streets, utility lines and tunnels, tennis courts, and the like.

Where the Data Were Obtained

Most of the data that are included in this report were obtained through the medium of data-gathering instruments directly from the 21 institutions that participated in the study. Most of the instruments were adapted from similar ones recommended by Russell and Doi in their manual for studies of space utilization.[2] The data-gathering instruments that were used in the study appear as Appendix A of this report.

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[1] Oklahoma State Regents for Higher Education, *Organization and Plan for the Self-Study of Higher Education in Oklahoma* (Oklahoma City: Oklahoma State Regents for Higher Education, 1962).

Other sources of data include the records in the office of the State Regents, evaluations of consultants who visited the participating institutions, and various published reports of similar studies in other states.

Procedures That Were Used in Making the Study

The procedures that are set forth in detail in the plan for the Self-Study have been followed carefully in the completion of the study of physical facilities. From a list of names of faculty and staff personnel submitted by the president of each public and private college and university in Oklahoma, eight individuals were appointed to serve on an advisory committee to assist the research staff in the study of Oklahoma higher education physical facilities. The names of individuals who served on Problem Area Advisory Committee Number Six, "Physical Facilities for Higher Education in Oklahoma," may be found in the front of this report. The problem area advisory committee met a number of times to assist the research staff in planning the study, to review preliminary reporting forms, to refine procedures that were to be followed by institutions in completing the forms, and to evaluate preliminary staff reports concerning the analysis of the data.

After the data-gathering instruments had been refined, the research staff spent a week at Oklahoma College for Women making a pilot inventory and analysis of physical facilities on that campus. As a result of that pilot study, the need was seen for a few revisions of the forms prior to their use on other campuses.

After final revisions of the forms had been made, the president of each participating institution was asked to designate an individual on his campus who would be responsible for completing the forms. Those people were then called together for a briefing session and given specific instructions on how to gather the data.

After the institutions had completed the task of inventorying all physical plant space, a staff member of the State Regents visited each campus. He reviewed all the data that had been gathered, checking the accuracy of room measurements and classfication of space, and, with institutional representatives, determined the capacity of all general classrooms and teaching laboratories. He then instructed the institutional officials as to how to complete the summary and utilization forms.

A second campus visitation was made by a team composed of a staff member of the State Regents and a structural engineer. The purpose of this visitation was to evaluate the quality of all buildings. At this time, the visiting team and an institutional official examined all the buildings and rendered judgments concerning the quality of the buildings as well as the amount of money, if any, that needs to be spent on the buildings to put them in satisfactory condition.

A third visitation was later made, this time by a staff member of the State Regents and a special consultant, Dr. A. L. Pugsley, Vice-President of Kansas State University. Dr. Pugsley is a former professor of architecture, has been an architectural consultant, and has had broad experience in making studies of higher education facilities.

On the third visitation, the special consultant conferred with the president and other institutional officials and examined all buildings that had previously been judged "poor" or "unsatisfactory" or concerning which there had previously been a disagreement between institutional officials and the survey team with respect to the qualitative ratings of the buildings. In almost all cases a consensus was reached at this point as to qualitative ratings. In those few instances where agreement could not be reached, the judgment of the consultant prevailed.

After all the visitations had been made and all the forms had been completed and returned to the office of the State Regents, the research staff carefully reviewed all the forms to make certain that they had been property completed. In some cases it was discovered that forms had been completed improperly and it became neecssary to recalculate some of the data.

After the physical plant inventory and utilization data had been compiled into tables, a preliminary staff report was prepared and presented to the problem area advisory committee and the special consultant. Those individuals participated in the formation and analysis of findings and conclusions drawn from the data.

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[2] John Dale Russell and James I. Doi, *Manual for Studies of Space Utilization in Colleges and Universities*, Prepared for and in cooperation with the Committee on Enrollment Trends and Space Utilization of the American Association of Collegiate Registrars and Admissions Officers (Menasha, Wisconsin: George Banta Company, Inc., 1957).

The narrative to accompany the tabular data was then drafted by the research staff. The entire report was then reviewed by the special consultant, the Advisory Steering Committee, and the Primary Advisory Committee. Advice and suggestions concerning the report were then obtained from the General Consultant, Dr. Norman Burns, Secretary of the North Central Association and Dr. Ernest V. Hollis, of the United States Office of Education. The report was finally reviewed and adopted by the State Regents.

Throughout the preparation of this report it has been kept in mind that this is a State Regents' self-study. The conclusions and recommendations reflect the considered judgments of a large number of individuals familiar with and engaged in higher education. The implications for Oklahoma higher education which are pointed out herein are a synthesis of many opinions rather than the judgment of any single individual.

Limitations of the Data

All of the physical facilities data included in this report were gathered and analyzed with great care. Every precaution was taken to insure that the data would be accurate and comparable among institutions. Even so, there are certain limitations that should be mentioned. In a study of such vast proportions as this one, involving over 16,000 rooms and almost 10 million gross square feet of space (excluding housing), it was necessary to set certain boundaries beyond which it was impractical to go.

It is believed, however, that the study was quite adequate for state-wide planning purposes. Also, there is much information obtained from the study that will be of value to individual institutions in solving specific physical plant problems. It is recognized, though, that institutions will in some cases need to conduct more detailed local studies in order to obtain all the information they need for wise and prudent planning of the physical plant.

In inventorying physical plant space, the quantity of space was gathered on a room-by-room basis and classified into various categories according to its use. The classification was made on the basis of primary use only and does not reflect secondary uses. It is obvious, of course, that a great many rooms in higher education institutions are used for more than one purpose. However, only the primary use is reflected in the data.

The cost estimates for the renovation of space that are included in this report are based on certain assumptions with regard to the use to be made of the space. Uses different from those that were assumed would in many instances alter the cost estimates drastically.

The space utilization data that are included in this report reflect only the scheduled use of general classroom and teaching laboratory space. It is recognized that classrooms and laboratories are used quite often for activities other than regularly scheduled classes, but it was not practical to attempt to obtain information in regard to such usage. The utilization figures are for general classrooms and teaching laboratories only and do not reflect any possible use of other room types for class sessions.

The projections of physical plant space needs were made on the basis of current scheduling practices. If the institutions were to move to a more complete year-round scheduling of classes, the projections would most assuredly be affected. Also, in making the projections, it was assumed that there would be no new institutions or major changes of functions of the existing institutions.

Another limitation of the space projections for general classrooms and teaching laboratories is that they are based on certain assumptions with regard to the level of utilization expectancy. If the expectancy level were to be raised or lowered, the projections would need to be changed. No attempt has been made to project space needs for organized research and extension and public service activities. Since these two functions are not directly related to the number of students, and since the size of such programs is so dependent upon subjective factors, a logical method of projecting space needs for them could not be developed. It must be assumed, however, that there will be additional space needs for organized research and extension and public services and the space projections are, to that extent, incomplete.

The space projections do not take into consideration the possibility of conversion of space from one use to another. Thus, an institution could conceivably alleviate space shortages in one area by converting excess space in another area. Due to a great many complicating factors, it was not feasible to explore all the possibilities in this realm and the projections were made assuming no change in the present use of space.

In a comprehensive study such as this, which projects future gross building space needs on the basis of utilization standards and criteria, it is possible that projected space needs may not adequately recognize specific physical plant deficiencies on some campuses. For example, an institution may have sufficient total instructional space but it may be so located on the campus as to be unusable to meet specific program requirements, or it may not be functionally useful for that program. For this reason, the broad policy guidelines suggested herein perhaps will need to be tempered after more detailed campus studies are made.

This discussion of limitations is designed to caution those who use the data. It is not intended that the data provide answers to all possible questions about physical facilities in Oklahoma higher education. Neither is it intended that the data be explicitly definitive in all cases, particularly with regard to projections of space needs. It is believed, however, that the data are valid for the purpose of drawing broad conclusions and that they do provide valuable answers to questions about the physical plants of colleges and universities in Oklahoma.

How Institutions Are Classified in this Report

Institutions that participated in this study have been classified according to two types. These are (1) by type of control and (2) by type of program.

The 21 participating institutions have been divided into two groups to distinguish between types of control. *State* institutions are the 18 colleges and universities constituting The Oklahoma State System of Higher Education which are supported by direct legislative appropriations. *Private* institutions are the three participating colleges and universities under the management and control of governing boards independent of public governmental agencies and which are supported by private funds.

For purposes of some analyses, institutions are classified by the following types of programs. *Universities* are those institutions which, in addition to a regular undergraduate program, also offer graduate programs leading to the doctor's degree in one or more fields. *Four-Year Colleges* are those institutions which offer programs leading to the bachelor's or master of teaching degree. *Two-Year Colleges* are those institutions which offer work leading to the associate degree.

Because of frequency of reference to institutions, it was necessary to use abbreviations of names of institutions throughout this report. The institutions, together with the system of abbreviation that is used, are as follows:

STATE INSTITUTIONS

Universities

OU —University of Oklahoma, Norman
OSU —Oklahoma State University, Stillwater

Four-Year Colleges

CSC —Central State College, Edmond
ECSC —East Central State College, Ada
NESC —Northeastern State College, Tahlequah
NWSC —Northwestern State College, Alva
SESC —Southeastern State College, Durant
SWSC —Southwestern State College, Weatherford
OCW —Oklahoma College for Women, Chickasha
PAMC —Panhandle A & M College, Goodwell
LU —Langston University, Langston

Two-Year Colleges

Cameron —Cameron State Agricultural College, Lawton
Connors —Connors State Agricultural College, Warner
Eastern —Eastern Oklahoma A & M College, Wilburton
Murray —Murray State Agricultural College, Tishomingo
NEOAMC —Northeastern Oklahoma A & M College, Miami
NOJC —Northern Oklahoma Junior College, Tonkawa
OMA —Oklahoma Military Academy, Claremore

PRIVATE INSTITUTIONS

Tulsa —University of Tulsa, Tulsa
OCC —Oklahoma Christian College, Oklahoma City
St Greg —St. Gregory's College, Shawnee

Part II—Inventory and Evaluation of Land and Buildings

An important institutional resource, and one essential to its operation, is the physical plant facilities of a college or university. The two fundamental elements of an institution of higher learning are, of course, students and faculty. However, the extent to which the one can learn and the other can teach is closely related to the adequacy of the physical plant. Buildings not only house the college in a physical sense, but they also influence to a marked degree—for good or bad—the general learning that takes place on the campus. Pleasant, attractive, and safe surroundings enhance both the quantity and quality of learning.

That higher education enrollments will double in the next 10 to 12 years is now a matter of common knowledge. Along with this enrollment growth will be the need to provide the physical plant resources to accommodate this enrollment growth. The need for additional physical plant space will not likely parallel the enrollment growth, particularly if serious effort is made to utilize existing college facilities to their fullest. Nevertheless, the dollar figure needed to renovate and remodel existing buildings, to replace obsolete structures, and to construct needed additional space is apt to be as staggering as current enrollment projections.

In this part of the report are presented data with regard to the amount and estimated current value of physical plant resources presently available at the 21 participating colleges and universities, judgments as to their general quality and condition, and estimates of the amount of money needed to restore usable buildings to a satisfactory condition.

Current Value of Land and Buildings

Book Value.—A figure often cited (but perhaps of doubtful value) that illustrates a state's investment in physical facilities is the "book value" of property owned and operated by institutions of higher learning. Book value theoretically represents the amount of money that has been spent by the state for the acquisition of land, buildings, and permanent equipment (less deductions for property that has been disposed of) since the establishment of each institution. Practically, however, the book value figure has serious shortcomings in that the accounting records of some institutions do not extend back far enough to show the actual cost of buildings constructed shortly after the turn of the century. Keeping this limitation in mind, it is of interest to note that the total book value of land and buildings at the 18 Oklahoma colleges and universities in the State System was $143,207,997 as of June 30, 1962.

There is a further limitation of the "book value" figure in that it does not reflect the appreciated value of property resulting from today's rising price structure. Nor does it reflect the worth of physical property that has been given to institutions. A more meaningful figure, although difficult to obtain, is the "replacement" value of property in terms of present-day costs.

Replacement Value.—In Table 1 is reported the total land holdings of the 18 colleges and universities in the State System. It is a perilous undertaking to guess the current market value of the 41,505.4 acres of land currently owned by these colleges and universities, but the location of college campuses, frequently in choice residential and industrial zones of cities, suggests that the figure would run into the hundreds of millions of dollars.

Table 1 also reveals that the 1,446 buildings owned by state colleges and universities contain 14,325,860 gross square feet of space. Assuming the replacement cost of this space to be $15 per gross square foot, it would require approximately $215 million to construct an equivalent amount of physical plant space today. Thus, the combined replacement value of buildings and market value of current land holdings would very likely approach one-half billion dollars.

Inventory of Land Holdings

The inventory of land holdings summarized in Table 2 was obtained from Form 6-1, **Inventory of Land Holdings,** completed by each of the 21 participating colleges and universities. The data in the table are arranged to show lands forming the central campus of each institution, land holdings not contiguous with the main campus but within a one-mile radius, and lands at a greater distance from the college.

Land holdings reported in Table 2 include lands owned in fee simple, lands owned with restricted rights of use or disposition, and lands leased by institutions. Of the 41,505.4 acres of land holdings of state institutions, 11,804.1 are owned in fee simple and another 26,925.3 acres are owned by institutions but have restricted rights of use or disposition. A total of 2,627 acres are leased by state institutions, and another 149 acres are available for institutional use without charge.

Oklahoma is fortunate in that, with the possible exception of three or four campuses, the institutions participating in this study are in excellent shape with regard to the availability of campus land suitable for academic or residential expansion. Typically, institutions of higher learning become surrounded by expensive residential and business properties, and campus expansion becomes extremely costly. The relatively extensive main

Table 1—Summary of Land Holdings and Gross Square Feet of Physical Plant Space in 18 Oklahoma State-Supported Colleges and Universities, Fall, 1963

Institution	Land (Acres)	Gross Sq. Ft. of Physical Plant Space	
		Housing	All Other Space
State Universities:			
OU	3,047.6	1,413,124	2,599,325
OSU	26,683.1[a]	1,516,337	2,390,436
Both Universities	29,730.7	2,929,461	4,989,761
State 4-Year Colleges:			
CSC	75.0	284,824	366,948
ECSC	107.3	184,780	340,922
NESC	114.6	342,002	352,536
NWSC	194.0	108,535	283,477
SESC	60.5	133,114	249,175
SWSC	216.8	153,235	312,897
OCW	229.7	163,745	265,202
PAMC	2,355.7	198,368	324,183
LU	400.0	139,784	226,572
All 4-Year Colleges	3,753.6	1,708,387	2,721,912
State 2-Year Colleges:			
Cameron	1,235.1	76,804	174,422
Connors	368.0	91,268	132,391
Eastern	3,645.8	267,875	200,012
Murray	1,328.0	92,672	143,668
NEOAMC	794.0[b]	84,603	172,598
NOJC	70.2	65,686	195,870
OMA	580.0	98,304	180,166
All 2-Year Colleges	8,021.1	777,212	1,199,127
All State Institutions	41,505.4	5,415,060	8,910,800

[a] Includes Lake Carl Blackwell area, but excludes 3,020.8 acres of land owned by OSU and used by the Agricultural Experiment Station, the Agricultural Extension Division, and branch campuses. Excludes all lands leased by the Agricultural Experiment Station.

[b] Excludes 12 city blocks currently being acquired under Urban Renewal.

campus land holdings of institutions is a credit to the far-sightedness of legislatures, governing boards, and institutional officials in acquiring land through the years which will permit future expansion.

The most serious problem with respect to the adequacy of main campus land holdings is at CSC in Edmond. Since 1960, the main campus has been expanded from approximately 30 acres to its present 75 acres. However, this institution's enrollment is expected to double in the next decade, and additional land is badly needed to permit future expansion.

Other institutions that will need additional land for future main campus expansion include NESC,

Table 2—Summary of Land Holdings of 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	Total Acres	Main Campus[a]	Within One Mile Radius of Main Campus	Over One Mile From Main Campus
State Universities:				
OU	3,047.6	1,030.2	1,540.0	477.4
OSU	26,683.1[b]	2,021.7	16.0	24,645.4
Both Universities	29,730.7	3,051.9	1,556.0	25,122.8
State 4-Year Colleges:				
CSC	75.0	75.0	----	—
ECSC	107.3[c]	107.0	.3	—
NESC	114.6	100.1	14.5	—
NWSC	194.0	45.0	----	149.0
SESC	60.5	60.5	----	—
SWSC	216.8	55.0	----	161.8
OCW	229.7	77.0	----	152.7
PAMC	2,355.7	360.0	----	1,995.7
LU	400.0	400.0	----	—
All 4-Year Colleges	3,753.6	1,279.6	14.8	2,459.2
State 2-Year Colleges:				
Cameron	1,235.1	350.0	----	885.1
Connors	368.0	293.0	—	75.0
Eastern	3,645.8	117.0	330.0	3,198.8
Murray	1,328.0	153.0	—	1,175.0
NEOAMC	794.0[d]	46.0	220.0	528.0
NOJC	70.2	20.0	46.2	4.0
OMA	580.0	60.0	520.0	----
All 2-Year Colleges	8,021.1	1,039.0	1,116.2	5,865.9
All State Institutions	41,505.4	5,370.5	2,687.0	33.447.9
Private Institutions:				
Tulsa	71.1	48.0	----	23.1
OCC	200.0	200.0	----	—
St Greg	40.0	40.0	----	—
Three Private Institutions	311.1	288.0	----	23.1
All Institutions	41,816.5	5,658.5	2,687.0	33,471.0

[a] Includes all contiguous land.

[b] Excludes 2,635.9 acres used by the Agricultural Experiment Station, 150.4 acres used by the Agricultural Extension Division, and 234.5 acres used by the School of Technical Training at Okmulgee. Includes Lake Carl Blackwell area.

[c] Includes 33 acres being purchased at time of survey.

[d] Excludes 12 city blocks to be acquired in 1964 under Urban Renewal.

SWSC, and Tulsa. The size of two other campuses is marginal, and if substantial enrollment growth occurs they will require additional land. These two campuses are NWSC and SESC.

Inventory of Academic Buildings

Basic to the development of any long-range capital construction program and projection of additional building requirements is the need to know the amount and general condition of existing educational facilities. Until the present condition and quality of buildings is properly ascertained, there can be no assurance that the wisest possible use will be made of available resources for capital construction. Intelligent planning recognizes not only the practical necessity but also the wisdom of maximizing the use of existing physical plant space before embarking upon an expanded capital construction program.

The inventory of existing higher education facilities in Oklahoma was completed in the fall of 1963. The procedures followed in conducting this inventory were explained in Part I of this report. Briefly, however, institutional officials completed six survey forms that had been prepared for this purpose. In the fall of 1963, a survey team of three individuals visited each campus for the purpose of validating the data provided by institutions on these forms, evaluating the general quality and condition of college buildings, and ascertaining the extent of deferred maintenance needs. A second visit was made to each campus at which time the special consultant, Dr. A. L. Pugsley, reviewed the ratings assigned buildings and rendered independent judgments regarding building quality and deferred maintenance needs. Before leaving each campus the consultant, the president of the institution, and a member of the survey staff reviewed all building inventory forms and reached common agreement on the ratings and estimated cost of major maintenance and renovation needs. In the few instances where agreement was not reached, the consultant's judgments were accepted as final.

The forms used to obtain inventory data enabled information to be gathered on the age of each building, original construction costs, major additions to buildings, and estimated major remodeling and deferred maintenance needs and costs. An inventory form was completed for each of the 1,521 buildings owned and maintained by the 21 participating institutions.

Building inventory data have been summarized by two broad functional categories, academic space and housing space. Academic space is defined to include the outside gross square feet of space in buildings and portions of buildings being used for any purpose except the housing of people. The term "outside gross square feet" is used to designate the square feet measurement of a building including all areas taken up by structural elements such as exterior and interior walls and columns. It includes the sum of the areas of all the floors of the building, including basements and mezzanines, but excludes such features as pipe trenches, exterior terraces or steps, chimneys, roof overhangs, covered walkways, porches, and open roofed-over areas.

In some instances, buildings were being used both for student housing and for purposes other than housing. In such cases, two inventory forms were completed just as though the building were two separate structures. For this reason, the total number of buildings shown in the tables may not always be identical with the actual number of structures on a campus.

Inventory data for academic space are presented in the remaining tables of this section. Inventory data for housing space are included as Appendix B. Square feet figures were rounded to the nearest square foot, and percentage figures were rounded to the nearest tenth of one per cent. Attention is also called to the footnotes in Table 3, which indicate the properties included and not included at the two state universities.

The Oklahoma State Regents for Higher Education are responsible for recommending to the State Legislature the budget allocations for each institution in the State System. This constitutional responsibility includes both capital budgeting needs and current operating budget needs. In the past, the State Regents have been disadvantaged with regard to ascertaining capital budget needs of state colleges and universities because a comprehensive inventory and utilization study of college facilities has never been made. Whenever possible, the State Regents have held meetings on the various campuses in the State System. While this has been helpful to the State Regents in "visualizing" each institution's campus, there has not been sufficient opportunity on these occasions for them to become thoroughly familiar with institutional building needs. Also, such visits have been infrequent as there are 18 institutions in the State System, and ordinarily no more than two or three such visits can be made during any fiscal year.

As the State Regents consider the capital budgeting needs of state institutions, it is imperative that they have complete and up-to-date information about the physical plant space at each institution. It was for this purpose that each president was asked to prepare a campus plot plan, drawn to a uniform scale, in conjunction with the inventory and evaluation of physical plant space. These plot plans, which locate each building on the campus, were drawn on linen tracing cloth which will permit them to be updated periodically. Thus the State Regents will have continuously available to them a graphic plan of each campus in the State System as they study and evaluate each institution's capital budgeting needs. A copy of each campus plot plan has been reproduced and is included as Appendix C.

Age of Buildings. — Table 3 summarizes the amount and proportion of outside gross square feet of academic space, by age of building, for each of the 21 participating colleges and universities.

There was a total of 785 academic buildings, containing 9,593,430 outside gross square feet of space, in the 21 participating institutions of higher learning. Of the total outside gross square feet of space, 21.5 per cent was less than 10 years of age at the time of the survey; 62.9 per cent was between 10 and 40 years of age, and 15.6 per cent was over 40 years of age. It is of interest to note that only 9 per cent of the buildings are over 40 years of age, but these old buildings include 15.6 per cent of the total academic space.

The proportion of total space in buildings over 40 years old ranged from none at OCC to 76.3 per cent at NOJC. Four-year colleges had the greatest proportion of old academic space, with 17.2 per cent of their total gross space being more than 40 years old.

Construction Features.—Table 4 summarizes the amount and proportion of outside gross square feet of physical plant space classified as either permanent or temporary construction. Table 5 shows the same space classified as either fire-resistive or non-fire-resistive. Determination of whether or not a building is permanent or temporary is primarily a matter of judgment. Usually, a permanent building is one that is constructed of durable materials such as steel, stone, concrete, or brick. Type of construction materials cannot be the sole criterion, however, as buildings constructed of wood may be considered as permanent structures for some purposes, such as farm buildings, housing, and the like. Therefore, in addition to the type of construction materials used, the suitability of the structure for the purpose for which it was designed must also be taken into consideration.

Nearly 92 per cent of the total square feet of academic space was classified as permanent-type construction. There were three institutions—NWSC, OCC, and St. Gregory's—at which 100 per cent of the buildings were judged as permanent. The two state universities had the greatest amount of academic space classified as temporary construction, with 14.4 per cent of gross square feet of space at OU in this category, and 10.8 per cent at OSU. The high proportion of space classified as temporary at OU was due to the inclusion of the north and south campuses in the data for that institution. The majority of buildings on these campuses are barrack-type buildings built during World War II. At OSU, there were a number of quonset huts, constructed of steel and cement, that were being used for classrooms, research, and physical plant space.

The decision of whether or not a building is fire-resistive is based primarily on the type of materials used in the structure. Those buildings that were constructed entirely of fire-resistive materials, including the roof, windows, doors, floors, and finish, were considered to be fire-resistive. Also, buildings that had fire-resistive materials in the walls, floors, stairways, and ceilings were classified as fire-resistive even though the interior had ordinary or joist construction and wood finish. Frame buildings, buildings constructed with wood above the foundation, and buildings with masonry walls but ordinary wooden floor joists, partitions, finish, and roof were considered to be non-fire-resistive.

It can be seen in Table 5 that more than one-fifth of the total outside gross square feet of physical plant space—more than two million square feet—was classified as non-fire-resistive. Nearly 68 per cent of this space was situated on the campuses of the two state universities. Murray had the highest proportion of non-fire-resistive academic space, with 59 per cent of the total square feet of space in this category. This figure is somewhat misleading, however, as a substantial amount of this space is in farm and garage structures where combustible materials are not considered to be inappropriate. LU had the second highest proportion of non-fire-resistive academic space, with 39.6 per cent in this category. Two campuses—OCC and St. Gregory's—had no buildings classified as non-fire-resistive.

Table 3—Amount and Proportion of Outside Gross Square Feet of Physical Plant Space by Age of Building, 21 Oklahoma Colleges and Universities, Fall, 1963[a]

Institution	Less than 10 Years			10 to 40 Years			Over 40 Years			Total	
	No. Bldgs.	Sq. Ft.	Pct.	No. Bldgs.	Sq. Ft.	Pct.	No. Bldgs.	Sq. Ft.	Pct.	No. Bldgs.	Sq. Ft.
State Universities:											
OU	9	361,102	13.9	133	1,950,766	75.0	15	287,457	11.1	157	2,599,325[b]
OSU	14	221,447	9.3	105	1,845,441	77.2	16	323,548	13.5	135	2,390,436[c]
Both Universities	23	582,549	11.7	238	3,796,207	76.1	31	611,005	12.2	292	4,989,761
State 4-Year Colleges:											
CSC	8	162,757	44.4	11	116,019	31.6	3	88,172	24.0	22	366,948
ECSC	7	111,625	32.7	17	170,221	49.9	1	59,076	17.4	25	340,922
NESC	4	83,778	23.8	17	223,100	63.3	1	45,658	12.9	22	352,536
NWSC	4	94,216	33.2	6	156,311	55.2	2	32,950	11.6	12	283,477
SESC	5	104,080	41.8	13	78,393	31.4	5	66,702	26.8	23	249,175
SWSC	4	166,320	53.1	14	92,194	29.5	2	54,383	17.4	20	312,897
OCW	5	43,365	16.3	10	143,369	54.1	3	78,468	29.6	18	265,202
PAMC	13	142,072	43.8	60	165,511	51.1	3	16,600	5.1	76	324,183
LU	----	----	----	21	200,018	88.3	1	26,554	11.7	22	226,572
All 4-Year Colleges	50	908,213	33.4	169	1,345,136	49.4	21	468,563	17.2	240	2,721,912
State 2-Year Colleges:											
Cameron	3	52,560	30.1	23	121,862	69.9	----	----	----	26	174,422
Connors	4	51,939	39.2	16	60,850	46.0	1	19,602	14.8	21	132,391
Eastern	13	95,342	47.7	23	74,298	37.1	5	30,372	15.2	41	200,012
Murray	5	22,640	15.7	28	91,058	63.4	1	29,970	20.9	34	143,668
NEOAMC	10	68,171	39.5	21	82,916	48.0	1	21,511	12.5	32	172,598
NOJC	9	42,999	22.0	3	3,305	1.7	6	149,566	76.3	18	195,870
OMA	7	53,418	29.6	11	99,640	55.3	1	27,108	15.1	19	180,166
All 2-Year Colleges	51	387,069	32.3	125	533,929	44.5	15	278,129	23.2	191	1,199,127
All State Institutions	124	1,877,831	21.1	532	5,675,272	63.7	67	1,357,697	15.2	723	8,910,800
Private Institutions:											
Tulsa	6	84,336	16.6	42	351,278	69.0	2	73,270	14.4	50	508,884
OCC	7	72,323	100.0	----	----	----	----	----	----	7	72,323
St Greg	3	31,163	30.7	1	11,160	11.0	1	59,100	58.3	5	101,423
Three Private Institutions	16	187,822	27.5	43	362,438	53.1	3	132,370	19.4	62	682,630
All Institutions	140	2,065,653	21.5	575	6,037,710	62.9	70	1,490,067	15.6	785	9,593,430

[a] Includes all space except that in housing units.

[b] Includes north and south campuses, biological station, and Noble fisheries.

[c] Excludes all branch campuses and physical plant space away from the main campus that is used by the Agricultural Extension Division and the Agricultural Experiment Station.

Ordinarily, institutions should not construct academic space that is non-fire-resistive, particularly if the buildings are to be used for classrooms, laboratories, offices, or the storage of expensive or combustible materials. Although the construction of permanent buildings with flammable materials may be appropriate for some purposes, high maintenance costs normally offset low original construction costs if the buildings are continued in use beyond 10 to 15 years.

General Quality.—One of the major principles in determining the building needs of any college or university is that of planning for the maximum use of the existing physical plant. No institution should abandon usable plant space without first making every effort to fit it into the projected program. Therefore it is necessary, as a first step in projecting future building needs, to ascertain whether the general quality and condition of present buildings justify their continued use, and whether

Table 4—Amount and Proportion of Outside Gross Square Feet of Physical Plant Space Classified as Permanent or as Temporary Construction, 21 Oklahoma Colleges and Universities, Fall, 1963[a]

Institution	Permanent Construction			Temporary Construction			Total	
	No. Bldgs.	Sq. Ft.	Pct.	No. Bldgs.	Sq. Ft.	Pct.	No. Bldgs.	Sq. Ft.
State Universities:								
OU	116	2,224,983	85.6	41	374,342	14.4	157	2,599,325
OSU	84	2,132,279	89.2	51	258,157	10.8	135	2,390,436
Both Universities	200	4,357,262	87.3	92	632,499	12.7	292	4,989,761
State 4-Year Colleges:								
CSC	21	364,900	99.4	1	2,048	0.6	22	366,948
ECSC	17	316,588	92.9	8	24,334	7.1	25	340,922
NESC	18	335,761	95.2	4	16,775	4.8	22	352,536
NWSC	12	283,477	100.0	----	----	----	12	283,477
SESC	18	239,014	95.9	5	10,161	4.1	23	249,175
SWSC	17	307,207	98.2	3	5,690	1.8	20	312,897
OCW	16	256,917	96.9	2	8,285	3.1	18	265,202
PAMC	28	299,105	92.3	48	25,078	7.7	76	324,183
LU	16	214,731	94.8	6	11,841	5.2	22	226,572
All 4-Year Colleges	163	2,617,700	96.2	77	104,212	3.8	240	2,721,912
State 2-Year Colleges:								
Cameron	14	160,206	91.8	12	14,216	8.2	26	174,422
Connors	14	120,346	90.9	7	12,045	9.1	21	132,391
Eastern	29	186,449	93.2	12	13,563	6.8	41	200,012
Murray	33	143,486	99.9	1	182	0.1	34	143,668
NEOAMC	25	161,561	93.6	7	11,037	6.4	32	172,598
NOJC	10	186,224	95.1	8	9,646	4.9	18	195,870
OMA	17	176,316	97.9	2	3,850	2.1	19	180,166
All 2-Year Colleges	142	1,134,588	94.6	49	64,539	5.4	191	1,199,127
All State Institutions	505	8,109,550	91.0	218	801,250	9.0	723	8,910,800
Private Institutions:								
Tulsa	43	493,228	96.9	7	15,656	3.1	50	508,884
OCC	7	72,323	100.0	----	----	----	7	72,323
St Greg	5	101,423	100.0	----	----	----	5	101,423
Three Private Institutions	55	666,974	97.7	7	15,656	2.3	62	682,630
All Institutions	560	8,776,524	91.5	225	816,906	8.5	785	9,593,430

[a] Includes all space except that in housing units.

their adaptability to total educational program needs justifies their retention or abandonment.

Even though a building might be of such quality, both structurally and functionally, that it can be continued in use, there is the further question of whether the location is suitable. If a building occupies land that is essential for the expansion of other more important space or for the best development of the total campus plan, consideration should be given to the wisdom of its continued use even though it may otherwise be a satisfactory structure.

Quality, as it relates to a building, is essentially a subjective judgment as to the usefulness or suitability of the structure for the purpose for which it is used. Although no completely objective yardsticks can be applied to a particular building to determine specifically whether it ought to be abandoned, rehabilitated, or continued in use as is, there are a number of readily observable factors which can greatly aid in determining the worth of any particular building. Some of these include the age of the structure, permanence of construction, structural defects, flexibility of design, safety problems,

Table 5—Amount and Proportion of Outside Gross Square Feet of Physical Plant Space in Fire-Resistive and Non-Fire-Resistive Buildings, 21 Oklahoma Colleges and Universities, Fall 1963 [a]

Institution	Fire-Resistive			Non-Fire-Resistive			Total	
	No. Bldgs.	Sq. Ft.	Pct.	No. Bldgs.	Sq. Ft.	Pct.	No. Bldgs.	Sq. Ft.
State Universities:								
OU	71	1,680,956	64.7	86	918,369	35.3	157	2,599,325
OSU	47	1,854,506	77.6	88	535,930	22.4	135	2,390,436
Both Universities	118	3,535,462	70.9	174	1,454,299	29.1	292	4,989,761
State 4-Year Colleges:								
CSC	18	297,812	81.2	4	69,136	18.8	22	366,948
ECSC	16	314,212	92.2	9	26,710	7.8	25	340,922
NESC	15	285,043	80.9	7	67,493	19.1	22	352,536
NWSC	11	274,008	96.7	1	9,469	3.3	12	283,477
SESC	15	235,897	94.7	8	13,278	5.3	23	249,175
SWSC	14	302,395	96.6	6	10,502	3.4	20	312,897
OCW	14	251,842	95.0	4	13,360	5.0	18	265,202
PAMC	30	271,332	83.7	46	52,851	16.3	76	324,183
LU	8	136,826	60.4	14	89,746	39.6	22	226,572
All 4-Year Colleges	141	2,369,367	87.0	99	352,545	13.0	240	2,721,912
State 2-Year Colleges:								
Cameron	12	152,450	87.4	14	21,972	12.6	26	174,422
Connors	10	111,502	84.2	11	20,889	15.8	21	132,391
Eastern	18	152,739	76.4	23	47,273	23.6	41	200,012
Murray	7	58,651	41.0	27	85,017	59.0	34	143,668
NEOAMC	19	142,671	82.7	13	29,927	17.3	32	172,598
NOJC	8	185,544	94.7	10	10,326	5.3	18	195,870
OMA	15	144,896	80.4	4	35,270	19.6	19	180,166
All 2-Year Colleges	89	948,453	79.1	102	250,674	20.9	191	1,199,127
All State Institutions	348	6,853,282	76.9	375	2,057,518	23.1	723	8,910,800
Private Institutions:								
Tulsa	38	427,208	83.9	12	81,676	16.1	50	508,884
OCC	7	72,323	100.0	----	----	----	7	72,323
St Greg	5	101,423	100.0	----	----	----	5	101,423
Three Private Institutions	50	600,954	88.0	12	81,676	12.0	62	682,630
All Institutions	398	7,454,236	77.7	387	2,139,194	22.3	785	9,593,430

[a] Includes all space except that in housing units.

maintenance costs, land use, and remodeling costs as compared to replacement costs. If the building is obsolete or has deteriorated to the extent that improvements to make it functionally sound will cost 60 per cent or more of the cost of a new plant, serious thought should be given to abandoning the facility.

The procedures followed in rating the general quality of building were described earlier in this part of the report. Generally, the quality ratings reflect the consensus of three independent judgments made by members of the survey team and consultant, following a thorough review of each building. Quality judgments were made in terms of the use currently being made of the space. Thus, a building that was inadequate for the functional use being made of it was rated as poor or unsatisfactory even though it may have been structurally sound. In such instances, consideration was then given to other possible uses of the space and estimates made of needed remodeling to accommodate different and more suitable functional use.

The amount and proportion of outside gross square feet of physical plant space according to general building quality are reported in Table 6. Of the total gross square feet of academic space, 25.5 per cent was rated as excellent, 50.1 per cent as satisfactory, 16.1 per cent as poor, and 8.3 per cent as unsatisfactory. The campus having the greatest proportion of unsatisfactory space was LU, with 29.4 per cent of its total physical plant space falling in this category. An additional 24.1 per cent of the space was rated as poor, making a total of 53.5 per cent of the total space as either poor or unsatisfactory.

Other campuses having undesirably high proportions of total space in the unsatisfactory classification were CSC (16.4%), OSU (15.9%), Cameron (15.5%), NEOAMC (13.7%), and Tulsa (13.5%). It should be pointed out, however, that construction under way at Cameron at the time of the inventory and funded new construction at NEOAMC will substantially alter the picture at these two institutions.

Future Use of Space.—In addition to rating the general quality of each building, a recommendation was also made about each building as to whether it should be continued in use indefinitely or whether it should be abandoned. Generally, buildings rated as excellent or satisfactory were recommended to be continued in use with ordinary maintenance. Buildings that were judged to be poor or unsatisfactory for their current use were checked first to see if they could be used to house other activities or programs without major renovation or alterations. If not, specific deficiencies recorded on the building inventory form were carefully reviewed and estimates were made of the cost to restore the building to a satisfactory condition. If refurbishing or remodeling costs approached the cost of new construction, it was generally recommended that the property be razed. In a few instances, however, where the buildings were considered to have historic value it was recommended that they be continued in use even though major maintenance costs might be unusually high.

Buildings identified as "temporary" were ordinarily rated as either "abandon and replace at earliest opportunity" or "abandon and replace after limited time." There are several reasons why temporary buildings should be removed from the campus. Generally they are expensive to maintain and to operate, and take up land that should be used for permanent buildings. Also, they usually constitute a fire hazard, and are rarely suited to institutional needs.

Tables 7 and 8 summarize the amount and proportion of gross square feet of physical plant space according to recommended future use. Of the total academic space, approximately two-thirds can be continued in use indefinitely with normal maintenance and minor alterations. Approximately one-fifth of the space requires major remodeling or alteration to restore it to a satisfactory condition, and about one-eighth should be razed.

There were five campuses at which all buildings fell in the category of "continue in use indefinitely." There were another seven campuses at which less than three per cent of the total space was rated as "abandon and replace." Clearly the most urgent need for new capital construction is at LU, where 30.3 per cent of the physical plant space (excluding housing) was classified as "abandon and replace at earliest opportunity." Other institutions having a high proportion of academic space in this category were Cameron, NEOAMC, Tulsa, OSU, and CSC. Of this group, it should be noted that at the time of the physical plant inventory,

Table 6—Amount and Proportion of Outside Gross Square Feet of Physical Plant Space According to the General Quality of Space, 21 Oklahoma Colleges and Universities, Fall, 1963[a]

Institution	Excellent		Satisfactory		Poor		Unsatisfactory		Total	
	Sq. Ft.	Pct.	Sq. Ft.	Pct.	Sq. Ft.	Pct.	Sq. Ft.	Pct.	Sq. Ft.	Pct.
State Universities:										
OU	476,904	18.3	1,149,501	44.2	853,819	32.8	119,101	4.7	2,599,325	100.0
OSU	546,302	22.9	1,143,368	47.8	319,594	13.4	381,172	15.9	2,390,436	100.0
Both Universities	1,023,206	20.5	2,292,869	46.0	1,173,413	23.5	500,273	10.0	4,989,761	100.0
State 4-Year Colleges:										
CSC	96,200	26.2	190,319	51.9	20,349	5.5	60,080	16.4	366,948	100.0
ECSC	59,893	17.6	263,467	77.3	10,752	3.1	6,810	2.0	340,922	100.0
NESC	125.266	35.5	123,435	35.0	90,195	25.6	13,640	3.9	352,536	100.0
NWSC	102,729	36.2	180,748	63.8	----	----	----	----	283,477	100.0
SESC	65,360	26.2	160,122	64.3	18,108	7.3	5,585	2.2	249,175	100.0
SWSC	99,854	31.9	202,541	64.7	3,142	1.0	7,360	2.4	312,897	100.0
OCW	133,272	50.2	122,763	46.3	9,167	3.5	----	----	265,202	100.0
PAMC	129,127	39.8	150,437	46.4	36,723	11.3	7,896	2.5	324,183	100.0
LU	32,008	14.1	73,317	32.4	54,560	24.1	66,687	29.4	226,572	100.0
All 4-Year Colleges	843,709	31.0	1,467,149	53.9	242,996	8.9	168,058	6.2	2,721,912	100.0
State 2-Year Colleges:										
Cameron	3,069	1.8	144,229	82.7	----	----	27,124	15.5	174,422	100.0
Connors	51,939	39.2	57,234	43.3	19,326	14.6	3,892	2.9	132,391	100.0
Eastern	94,023	47.0	94,487	47.3	4,417	2.2	7,085	3.5	200,012	100.0
Murray	19,147	13.3	124,521	86.7	----	----	----	----	143,668	100.0
NEOAMC	58,697	34.0	60,884	35.3	29,314	17.0	23,703	13.7	172,598	100.0
NOJC	35,978	18.4	150,521	76.8	8,778	4.5	593	0.3	195,870	100.0
OMA	88,199	49.0	89,817	49.8	2,150	1.2	----	----	180,166	100.0
All 2-Year Colleges	351,052	29.3	721,693	60.3	63,985	5.2	62,397	5.2	1,199,127	100.0
All State Institutions	2,217,967	24.9	4,481,711	50.3	1,480,394	16.6	730,728	8.2	8,910,800	100.0
Private Institutions:										
Tulsa	164,842	32.4	238,516	46.9	36,541	7.2	68,985	13.5	508,884	100.0
OCC	52,430	72.5	280	0.4	19,613	27.1	----	----	72,323	100.0
St Greg	11,389	11.2	87,824	86.6	2,210	2.2	----	----	101,423	100.0
Three Private Institutions	228,661	33.5	326,620	47.8	58,364	8.6	68,985	10.1	682,630	100.0
All Institutions	2,446,628	25.5	4,808,331	50.1	1,538,758	16.1	799,713	8.3	9,593,430	100.0

[a] Includes all space except that in housing units.

Table 7—Amount of Outside Gross Square Feet of Physical Plant Space in Buildings According to Whether It Can Be Continued in Use Indefinitely or Should Be Abandoned, 21 Oklahoma Colleges and Universities, Fall, 1963 [a]

Institution	Continue in Use Indefinitely				Abandon But Need Not Be Replaced	Abandon and Replace		Total
	With Minor Maintenance	With Major Maintenance	With Minor Alterations	With Major Alterations		At Earliest Opportunity	After Limited Time	
State Universities:								
OU	1,438,515	695,152	----	31,230	44,506	82,696	307,226	2,599,325
OSU	1,540,222	344,245	----	19,612	64,414	241,338	180,605	2,390,436
Both Universities	2,978,737	1,039,397	----	50,842	108,920	324,034	487,831	4,989,761
State 4-Year Colleges:								
CSC	198,250	77,572	----	22,434	1,956	40,452	26,284	366,948
ECSC	264,284	59,076	----	----	10,500	1,050	6,012	340,922
NESC	247,709	81,464	----	4,203	12,620	6,540	----	352,536
NWSC	223,283	----	----	60,194	----	----	----	283,477
SESC	132,733	103,877	----	----	5,949	4,328	2,288	249,175
SWSC	199,725	50,006	55,806	----	----	7,360	----	312,897
OCW	256,917	----	----	----	1,025	----	7,260	265,202
PAMC	266,346	----	13,465	23,160	192	4,632	16,388	324,183
LU	62,877	94,951	----	----	----	68,744	----	226,572
All 4-Year Colleges	1,852,124	466,946	69,271	109,991	32,242	133,106	58,232	2,721,912
State 2-Year Colleges:								
Cameron	147,298	----	----	----	----	27,124	----	174,422
Connors	89,571	6,016	----	19,602	----	3,892	13,310	132,391
Eastern	154,634	11,750	22,126	----	7,292	4,210	----	200,012
Murray	143,388	280	----	----	----	----	----	143,668
NEOAMC	93,912	34,706	----	16,555	2,060	25,365	----	172,598
NOJC	120,243	72,409	----	----	----	593	2,625	195,870
OMA	143,168	36,998	----	----	----	----	----	180,166
All 2-Year Colleges	892,214	162,159	22,126	36,157	9,352	61,184	15,935	1,199,127
All State Institutions	5,723,075	1,668,502	91,397	196,990	150,514	518,324	561,998	8,910,800
Private Institutions:								
Tulsa	366,048	53,910	----	18,090	----	70,836	----	508,884
OCC	72,323	----	----	----	----	----	----	72,323
St Greg	42,323	59,100	----	----	----	----	----	101,423
Three Private Institutions	480,694	113,010	----	18,090	----	70,836	----	682,630
All Institutions	6,203,769	1,781,512	91,397	215,080	150,514	589,160	561,998	9,593,430

[a] Includes all space except that in housing units.

OSU and NEOAMC had not yet expended all the capital outlay funds allocated to them from the 1960 state bond issue for college construction.

The state four-year colleges as a group had the smallest proportion of space that should be razed, with only seven per cent recommended for abandonment and replacement. Seven of the nine state four-year colleges had less than three per cent of their total space in this category. The state two-year colleges as a group had 12.1 per cent of their space that needed replacing, and state universities had 16.3 per cent in this category.

Institutions having the highest proportion of space currently requiring major maintenance were St. Gregory's, LU, SESC, NOJC, and OU. Others with substantial need for deferred maintenance

Table 8—Percentage Distribution of Outside Gross Square Feet of Physical Plant Space According to Whether It Can Be Continued in Use Indefinitely or Should Be Abandoned, 21 Oklahoma Colleges and Universities, Fall, 1963[a]

Institution	Continue in Use Indefinitely				Abandon But Need Not Be Replaced	Abandon and Replace		Total
	With Minor Maintenance	With Major Maintenance	With Minor Alterations	With Major Alterations		At Earliest Opportunity	After Limited Time	
State Universities:								
OU	55.3	26.8	----	1.2	1.7	3.2	11.8	100.0
OSU	64.4	14.4	----	0.8	2.7	10.1	7.6	100.0
Both Universities	59.7	20.8	----	1.0	2.2	6.5	9.8	100.0
State 4-Year Colleges:								
CSC	54.0	21.2	----	6.1	0.5	11.0	7.2	100.0
ECSC	77.5	17.3	----	----	3.1	0.3	1.8	100.0
NESC	70.3	23.1	----	1.2	3.6	1.8	----	100.0
NWSC	78.8	----	----	21.2	----	----	----	100.0
SESC	53.3	41.7	----	----	2.4	1.7	0.9	100.0
SWSC	63.8	16.0	17.8	----	----	2.4	----	100.0
OCW	96.9	----	----	----	0.4	----	2.7	100.0
PAMC	82.2	----	4.1	7.1	0.1	1.4	5.1	100.0
LU	27.8	41.9	----	----	----	30.3	----	100.0
All 4-Year Colleges	68.1	17.2	2.5	4.0	1.2	4.9	2.1	100.0
State 2-Year Colleges:								
Cameron	84.4	----	----	----	----	15.6	----	100.0
Connors	67.7	4.5	----	14.8	----	2.9	10.1	100.0
Eastern	77.3	5.9	11.1	----	3.6	2.1	----	100.0
Murray	99.8	0.2	----	----	----	----	----	100.0
NEOAMC	54.4	20.1	----	9.6	1.2	14.7	----	100.0
NOJC	61.4	37.0	----	----	----	0.3	1.3	100.0
OMA	79.5	20.5	----	----	----	----	----	100.0
All 2-Year Colleges	74.4	13.5	1.9	3.0	0.8	5.1	1.3	100.0
All State Institutions	64.3	18.7	1.0	2.2	1.7	5.8	6.3	100.0
Private Institutions:								
Tulsa	71.9	10.6	----	3.6	----	13.9	----	100.0
OCC	100.0	----	----	----	----	----	----	100.0
St Greg	41.7	58.3	----	----	----	----	----	100.0
Three Private Institutions	70.4	16.6	----	2.6	----	10.4	----	100.0
All Institutions	64.7	18.6	0.9	2.2	1.6	6.1	5.9	100.0

[a] Includes all space except that in housing units.

funds are NESC, CSC, NEOAMC, and OMA. At these institutions, when additional resources are available for capital purposes, priority should be given to remodeling and renovation rather than new construction.

The total gross square feet of physical plant space classified as "abandon and replace" amounted to 1,151,158 square feet. The estimated cost to replace this amount of space in 1965 is $19.74 per square foot, or $22,723,859.[3]

Deferred Maintenance Needs.—In Oklahoma, the construction of new buildings, major additions, major alteration, and refurbishment of existing buildings used for "educational and general operations" is financed from state funds allocated to institutions by the Oklahoma State Regents for Higher Education. These funds, for the most part, are appropriated to the State Regents by the state legislature, and are the proceeds of state bond issues periodically authorized by a vote of the people. In addition to the proceeds of state bond issues for college construction, some institutions receive income from Section 13 and New College Funds which are the earnings from lands set aside in the early days of statehood for the support of capital construction and purchase of capital equipment.

In addition to buildings used for educational and general operations, all institutions construct and maintain buildings used to house activities and programs not considered to be instructional in nature, but nevertheless essential to a modern college or university. These buildings—such as student unions, food service facilities, health centers, and the like—are financed primarily by loans to the institutions repaid from earnings of the programs housed in the buildings. Such facilities are commonly referred to as "self-liquidating" properties. In Oklahoma, approximately 15 per cent of the "academic" space is in self-liquidating properties and the remaining 85 per cent is in buildings used for educational and general operations.

Table 9 presents the estimated cost to accomplish the major maintenance and major alteration needs of the 18 colleges and universities in the State System. Total estimated major maintenance and alteration needs amounted to $4,757,600. In addition, maintenance and alteration needs have been reported according to the sources from which it can be assumed that such funds would be derived. Of the total estimated major maintenance and alteration needs, 91.6 per cent would come from state appropriations, and 8.4 per cent from other sources.

Inventory of Housing Facilities

In Oklahoma, facilities for the housing of students, faculty, and other institutional personnel are currently built as "self-liquidating" properties. That is, original construction costs as well as maintenance and alteration requirements are funded from sources other than state appropriations. Usually, these funds are obtained in the form of long-term loans which are repaid from the earnings of such buildings. Because no state funds are allocated for the construction or operation of these facilities, the Oklahoma State Regents for Higher Education are involved only insofar as the acquisition and use of necessary state-owned land is concerned. The planning, financing, construction, and operation of housing and other "self-liquidating" properties is the responsibility of the governing boards.

In the inventory of physical plant space, all buildings owned by the institutions were included. However, a separate inventory form (Form 6-5) was developed and used to inventory and evaluate housing units. Analyses identical to those made for academic space were also made for housing units, and these tables are included as Appendix B. There was a total of 5,693,319 outside gross square feet of space in housing units owned by the 21 participating colleges and universities. Of this amount of space, only 4.9 per cent was found to require major maintenance needs, and another 2.5 per cent would require major alterations to be considered satisfactory. The data support the observation that "self-liquidating" properties receive much better maintenance service than do other types of institutional buildings. Two factors likely account for this fact. First, agencies making long-term loans for capital construction normally require a sound plan for proper maintenance in order to assure that the building will be usable during the loan period. Second, when current operating funds are insufficient, institutional officials tend to defer needed building repairs to academic space rather than reduce expenditures budgeted for other activities.

Approximately one-fifth of the total housing space was classified as "abandon and replace."

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[3] For more detailed explanation of current construction costs, see Part V.

Even though institutions find themselves with a high proportion of housing space that should be abandoned and replaced, they will likely find it difficult to do so in the next few years because of the expected rapid rise in college enrollments. Then too, the income from much of this property has been pledged for several years ahead to help retire indebtedness incurred to construct other housing units. It is tempting to use unsatisfactory housing beyond its useful life not only because of enrollment pressures, but also because of its income-producing value to the institution. However, the use of these facilities presents definite fire or safety hazards for the occupants, and some means should be found to raze such structures rather than to permit their continued use.

Table 9—Estimated Major Maintenance and Major Alteration Needs in 21 Oklahoma Colleges and Universities, Fall, 1963[a]
(amounts in dollars)

Institution	From State Allocations			From Other Sources[b]			Total Maintenance And Alteration Needs
	Major Maintenance	Major Alterations	Sub-Total	Major Maintenance	Major Alterations	Sub-Total	
State Universities:							
OU	1,293,800	124,000	1,417,800	----	----	----	1,417,800
OSU	318,600	500,000	818,600	----	----	----	818,600
Both Universities	1,612,400	624,000	2,236,400	----	----	----	2,236,400
State 4-Year Colleges:							
CSC	170,900	90,000	260,900	----	60,000	60,000	320,900
ECSC	85,000	----	85,000	----	----	----	85,000
NESC	524,000	60,000	584,000	----	----	----	584,000
NWSC	75,000	40,000	115,000	----	----	----	115,000
SESC	308,000	----	308,000	----	----	----	308,000
SWSC	75,500	74,500	150,000	----	----	----	150,000
OCW	----	----	----	----	----	----	----
PAMC	----	4,000	4,000	----	----	----	4,000
LU	233,000	----	233,000	257,000	----	257,000	490,000
All 4-Year Colleges	1,471,400	268,500	1,739,900	257,000	60,000	317,000	2,056,900
State 2-Year Colleges:							
Cameron	----	----	----	----	----	----	----
Connors	26,500	100,000	126,500	40,000	----	40,000	166,500
Eastern	21,200	----	21,200	6,600	12,600	19,200	40,400
Murray	7,000	10,000	17,000	----	23,000	23,000	40,000
NEOAMC	135,000	15,000	150,000	----	----	----	150,000
NOJC	42,000	----	42,000	----	----	----	42,000
OMA	25,400	----	25,400	----	----	----	25,400
All 2-Year Colleges	257,100	125,000	382,100	46,600	35,600	82,200	464,300
All State Institutions	3,340,900	1,017,500	4,358,400	303,600	95,600	399,200	4,757,600
Private Institutions:							
Tulsa	----	----	----	62,000	150,000	212,000	212,000
OCC	----	----	----	----	----	----	----
St Greg	----	----	----	----	----	----	----
Three Private Institutions	----	----	----	62,000	150,000	212,000	212,000
All Institutions	3,340,900	1,017,500	4,358,400	365,600	245,600	611,200	4,969,600

[a] Includes all space except that in housing units.

[b] Private gifts and grants and income from "self-liquidating" facilities.

General Observations

In retrospect, there are several observations of a subjective nature that may be helpful to institutional officials as they approach possible plant expansion programs. These observations represent general impressions received during the course of the campus visits to validate utilization data and evaluate college plant facilities. They are not pointed at any particular college or university but rather are generally directed to all institutions that participated in the study.

Long-Range Campus Planning.—Each campus visit began with a conference with institutional officials, its purpose being to explain the procedures to be followed in conducting the physical plant inventory and evaluation of buildings. During these conferences information was sought regarding each institution's planning for future campus development, as this information was closely related to the rating of buildings and decisions regarding possible future structural alterations and additions.

For the most part, institutional campus planning was found to be extremely limited in scope and consisted primarily of informal sketches of the campus, or some portion of it, with little or no relationship to a thorough institutional study. Only two institutions exhibited written "master" plans that appeared to have been carefully developed and which projected future building needs, provided for their "functional" location in relation to other buildings and institutional functions, and identified future building priorities. The lack of long-range planning is evidenced on most campuses by periodic changes in architectural emphasis, buildings being located in non-functional locations, and poor campus traffic patterns. While many opinions were expressed as to future building needs, they frequently appeared to be "hip pocket" opinions, supported by incomplete or haphazardly compiled information.

It is true that present methods of financing capital construction at state institutions in Oklahoma do not encourage the wisest or most economical use of money, since institutional officials have had to depend on infrequent state bond issues to finance needed capital construction. Not only have such programs been sporadic in nature, but also there has been no systematized or effective way for institutions to present their actual physical plant needs. This has tended to discourage administrative concern for the development of institutional master plans. However, if the colleges are to provide physical facilities appropriate to the future's instructional programs and enrollments, they must turn their attention immediately to long-range capital planning. Further, the state must find some way to fund the capital construction needs of colleges which will not only encourage sound planning, but will also make the money available when it is needed and where it is needed.

General Care of Plant.—A major administrative responsibility lies in the preservation of the state's investment in buildings and equipment. Empirically, it is usually considered that the effective useful life of a college building is no longer than 50 years. Assuming this figure to be reasonably accurate, any program of maintenance that prolongs a building's useful life beyond this period will effect substantial savings to the state. It is, of course, important to prevent structural deterioration in order to save resources. However, of even greater importance is the impact of building quality and condition on students for this greatly affects the learning that takes place on the campus. A student's physical surroundings can either complement or mitigate the faculty's efforts to develop wholesome attitudes, value judgments, and behavior patterns. A dingy, uninteresting, or dirty classroom, corridor, or dormitory room invites depression, pessimism, and lack of appreciation. It likewise discourages effective teaching.

The relatively low amount of deferred maintenance at most campuses indicates that the majority of institutional officials have made commendable efforts to maintain school plants properly. This has been particularly difficult, as pointed out in preceding reports, inasmuch as adequate current operating funds for physical plant maintenance have not been available in recent years.[4] Several instances were noted, however, where buildings are deteriorating rapidly. Unless immediate steps are taken to provide for these current deferred maintenance needs the state will lose the use of these buildings which, with proper maintenance, will have many additional years of useful life. As funds are made available for capital improvements, first priority should be given to refurbishing these buildings and restoring them to a useful condition.

In addition to major deferred maintenance needs, every institution could well direct more attention toward improving its day-to-day maintenance program. A systematic schedule or work program should be developed which will insure the proper care of each room. This program would not only provide for routine janitorial activities, but also periodic painting, repair of damaged equipment and hardware, replacement of lights, pointing of masonry, and the like. Such care will require additional funds.

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[4] Charles R. Walker and John J. Coffelt, *Financing Current Operating Costs of Higher Education in Oklahoma* (Oklahoma City: Oklahoma State Regents for Higher Education, 1963), pp. 18-19.

Lighting.—Almost without exception, institutions have not provided adequate lighting in classrooms and laboratories to meet modern standards. Good lighting helps to produce better results from the activities that take place in instructional areas. In recent years, research has led to considerable improvement in school lighting. Each campus could profit from a complete and detailed lighting survey as a first step to the improvement of the quality and quantity of school lighting.

Air Conditioning.—A major limitation of this study was the decision not to include air conditioning costs in estimates of deferred maintenance and alteration needs. While most college buildings constructed in recent years have either included central air conditioning or been engineered to permit ready installation of air conditioning in the near future, most older buildings have not been so designed. Had such conversion costs been included in this study, the deferred maintenance cost estimates would have been greatly increased.

Nevertheless, there is a definite trend toward the year-round use of college facilities and institutions must begin to plan to ready buildings for summer use. Air conditioning of teaching space will become a necessity in this eventuality, and institutions should plan such modifications as are needed to accommodate summer use.

Remodeling and Renovation.—It is axiomatic that a building should be designed to accommodate the programs or activities that it houses. While architects endeavor to maintain flexibility in structural design, the overriding consideration in planning is necessarily the use to be made of the building in the decade or so immediately ahead. A building that may be structurally sound for 50 years may become educationally obsolete far sooner than this due to institutional changes in functions, enrollment increases, changes in teaching methods, and other similar causes. Thus a building that was adequate for its designed purpose fifteen or twenty years ago may become a "white elephant" to an institution if the original design was such that it will be difficult or expensive to remodel for other uses. In such instances, institutional officials are sometimes tempted to destroy and replace the space rather than spend money on remodeling or refurbishing it. Not infrequently, buildings are abandoned when careful thought might have resulted in the discovery of other uses for the space.

The consultant and survey team were greatly impressed with the ingenuity and imagination exhibited on several campuses in remodeling and renovating space in old buildings to keep it functionally useful. A number of buildings were visited which had been refurbished to serve existing space needs, and at a fraction of the cost of new construction. Particularly commendable was the remodeling of an old gymnasium building at SWSC into a modern music facility; the renovation of an old gymnasium building at NWSC into a student union and cafeteria; the renovation of an old structure at OCW into modern science and classroom space; and the renovation of an old building on the Eastern campus into a modern classroom building. In every instance, imaginative planning resulted in the recapture of space that had outlived its usefulness for original purposes, and at less than half the cost of similar new construction, thereby saving Oklahoma taxpayers many hundreds of thousands of dollars.

Part III—Inventory of Assignable Space

In Part II of this report, data were presented relative to the inventory of all physical plant space at 21 Oklahoma colleges and universities by building. In that presentation, the data were recorded in terms of "outside gross square feet" of space. Since a building on a college campus normally has several different uses, and since there is considerable variation among buildings as to the proportion of outside gross square feet that is actually usable, it was also deemed necessary to inventory space in terms of "assignable square feet." This section presents data with respect to that inventory.

In order to inventory assignable space, a room inventory form was completed for every room on each campus except those in housing units. A copy of the form (Form 6-2) appears as part of Appendix A. On each form was listed, among other characteristics, the name of the building, the room number, the assignable square feet of space, and the primary use that was being made of the space. The primary use was identified in terms of two codes; i.e., by room type and by function. The room-type code indicated whether the room was a general classroom, faculty office, research laboratory, etc. The function code indicated whether the room was being used for administration, instruction, organized research, physical plant operation, and the like.

Terms Used in This Section

Basic to an understanding of the data presented in this section is an understanding of the meaning of terms that are used. The following definitions of terms were taken primarily from the manual by Russell and Doi.[5] In a few instances, however, minor changes have been made in the definitions as presented in the manual so as to make them more appropriate for the study of Oklahoma institutions.

Classification of Space by "Room Type."—All space was classified according to the following room types.

1. General Classrooms—All instructional space used primarily for recitation, lectures, and seminar-type class meetings and all space designed for such use even though it was not being so used at the time of the study.
2. Teaching Laboratories—Instructional rooms equipped for a special purpose such as chemistry experiments, food preparation and services in home economics, shop work and industrial arts, painting, and the like. Specialized rooms such as those set up for instruction in business machines, drafting, and band practice, that were equipped primarily for specialized laboratory-type instructional activity and not for lectures and recitation-type classes, were classified as teaching laboratories even though they were used occasionally for lecture or recitation-type class meetings.
3. Other Instructional Rooms—Music practice rooms, public lecture halls, playing floors, wrestling and boxing rooms, indoor swimming pools, auditoriums (if used primarily as instructional space), and the like.
4. Teaching Service Rooms—Supply rooms, teachers' lounges, projection rooms, teaching equipment storage rooms, and similar space which served classrooms and teaching laboratories.
5. Faculty Offices—Offices of all people who held faculty rank other than those whose primary duties were administrative.
6. Other Offices—All offices other than faculty offices.
7. Office Service Rooms—Conference rooms, waiting rooms, office files and supply rooms, clothes closets, and the like.
8. Research Laboratories—Laboratories used primarily for research as distinguished from teaching laboratories.
9. Library Space—Stack rooms, carrels, reading rooms, periodical rooms, library service areas, and the like.
10. Museum or Exhibition Rooms—Display rooms, exhibit storage areas, and the like.
11. Auditoriums and Theatres—Auditoriums and theatres not used primarily for instructional space. This category also includes such rooms as check rooms, scenery rooms, dressing rooms, ticket sales booths, concert halls, etc.
12. Physical Plant Service Space—Warehouse rooms, motor pools, heating plants, garages, greenhouses, machine repair shops, and the like.
13. Accessory Space—Rest rooms and janitor closets.
14. Non-Academic and Recreational Space — Chapels, student lounges, student unions, faculty clubs, game rooms, bowling alleys, bookstores, post offices, and cafeterias and dining halls if not in housing units.
15. Inactive Space—Rooms that were not in use at the time of the space study because of new construction, major alteration, or condemnation.
16. Farm Building Space—All space in farm buildings other than that classifiable in one of the preceding categories.

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[5] Russell and Doi, *Op. Cit.*

17. Other Space—All space that could not be classified according to one of the above categories.

Classification of Space by "Function."—All space was also classified according to the following functions. The functions are the same as are used for budgeting purposes.

1. Instruction and Departmental Research Space —Classrooms, teaching laboratories, other instructional rooms, teaching service rooms, faculty offices, offices for clerical and teaching assistants for faculty, offices of academic deans and heads of departments, and the like.
2. Administration and General Space—General executive and administrative offices; space for secretaries of administrative personnel; space used for student services, admissions and registration, placement, public relations, institutional publications, business offices, etc.
3. Space for Organized Activities Related to Instruction—Space in laboratory schools, farms, creameries, and the like.
4. Organized Research Space—Space used by research bureaus and experiment stations as well as other rooms for research financed from the educational and general operating budget.
5. Extension and Public Service Space—Space used by the extension division, radio and television stations, and museums; space used for concerts; public lecture halls and immediate service areas; and the like.
6. Library Space—Stack rooms, carrels, reading rooms, periodical rooms, library service areas, offices of librarians, etc.
7. Space for Plant Operation and Maintenance—Maintenance shops; toilets; machine shops; motor pools; garages; heating plants; boiler rooms; janitor rooms; janitor supply rooms; police, fire protection, and security offices; etc.
8. Auxiliary Enterprise Space—Student unions, faculty clubs, bookstores, post offices, etc.
9. Contract Research Space—Rooms used for pure and applied research activities funded from outside sources.
10. Space Used by Non-Institutional Agencies—State, regional, and federal offices; space used by professional organizations and agencies; etc.
11. Other Space—All space that could not be classified according to one of the above categories.

Assignable Space.—Assignable space was considered to be the usable interior of a room or rooms. Alcoves, closets, and built-in shelves opening into and serving the room were included in the count of total assignable square feet of floor space. If structural features such as columns, doorswings, impaired headroom, and heating devices constituted a substantial loss of usable space, such areas were deducted from the square feet measurement of the room. Such space as that in attics and basements and under stair wells that was being used for storage or other semi-active uses was included.

Room.—A room was considered to be the interior space enclosed by walls or separated from other similar places by walls or partitions. Partitioned areas within a large room were considered as individual rooms. Corridors, lobbies, elevators, stair wells, and other such circulation areas were not considered rooms for the purpose of this study. (However, if such space had been partitioned and was being used for some purpose other than "circulation," it was considered a room.)

Inventory by Room Type

The inventory of assignable space yielded a room count of 16,091 and a square foot count of 7,489,479. Figure A shows the distribution of this space according to nine selected categories.

Figure A shows that only a little more than a fifth of total assignable space is used for general classrooms and teaching laboratories in Oklahoma institutions. Studies that have been made in other states have arrived at this same general finding which serves to point up a misconception that people generally have about higher education institutions. Colleges and universities are commonly conceived as a collection of classrooms and laboratories with a few faculty offices sprinkled about. However, data that are presented in this report show rather dramatically that the typical college physical plant is a multifarious complex of highly complicated structures.

For convenience, several kinds of space have been combined in the "other space" category shown by

Figure A—Proportion of Total Assignable Space in 21 Oklahoma Colleges and Universities Used for Nine Room Types

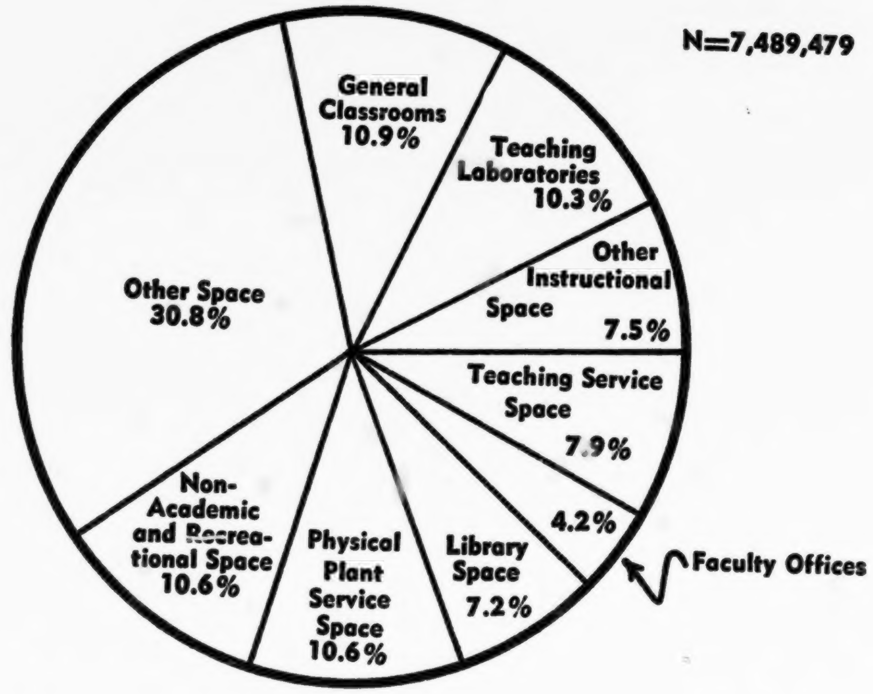

Figure A. This category includes offices other than faculty offices, office service rooms, research laboratories, museum and exhibition rooms, auditoriums and theatres, accessory space, inactive space, farm building space, and a miscellaneous assortment of other kinds of space.

Tables 10, 11, 12, and 13 make analyses of space by room type for each institution. Table 10 shows the number of square feet of assignable space in each of the categories, Table 11 shows the per cent of space in each of the categories, Table 12 shows the amount of space per full-time-equivalent student in each of the categories, and Table 13 shows the number of rooms of each type.

Square Feet of Assignable Space.—From Table 10, it can be seen that the 18 state-supported institutions have over 7 million square feet of assignable space. Of this amount, 54.9 per cent is in the two universities, 31 per cent in the four-year colleges, and 14.1 per cent in the two-year colleges. This percentage distribution of physical plant space among the three types of institutions is fairly close to the distribution of the educational and general budget and the student load. In 1962-63, the two universities spent 62.2 per cent of the educational and general money, the four-year colleges spent 29 per cent, and the two-year colleges spent 8.8 per cent. During the same year, the universities enrolled 51.1 per cent of total FTE students, the four-year colleges enrolled 38.6 per cent, and the two-year colleges enrolled 10.3 per cent.

Included in the assignable space for OU is 611,677 square feet located on the north and south campuses and 20,485 square feet at the biological station and the Noble fisheries. The north and south campuses are abandoned military bases that were obtained from the federal government. For the most part, the buildings located on them are wood frame of a "temporary" nature and, in a great many cases, have but limited usefulness. The Noble fisheries, located at Noble, and the biological station at Willis are primarily research installations.

As would be expected, most of the research laboratory space in the state institutions is located at the universities. Only 4,201 square feet of such space is located elsewhere and 1,796 feet of that is space used by the Agricultural Experiment Station at PAMC. It will be noted from Table 10 that

Table 10—Amount of Assignable Physical Plant Space by Type of Room in 21 Oklahoma Colleges and Universities, Fall, 1963[a]
(amounts in square feet)

Institution	Total	General Class-Rooms	Teaching Labs	Other Instr. Space	Teaching Service	Office, Faculty	Office, Other	Office Service	Research Lab	Library	Museum or Exhibition	Auditoriums	Physical Plant Service	Accessory[b]	Non-Acad. & Recreat.	Inactive	Farm Bldg.	Other
State Universities:																		
OU[c]	1,980,788	151,259	152,224	105,956	172,971	81,361	84,816	119,480	102,936	185,926	29,156	16,571	285,205	73,839	190,695	100,188	----	128,205
OSU	1,865,996	132,134	177,943	96,942	136,937	88,906	84,534	130,681	232,919	136,970	3,351	20,745	177,355	60,023	155,100	10,458	123,258	97,740
Both Universities	3,846,784	283,393	330,167	202,898	309,908	170,267	169,350	250,161	335,855	322,896	32,507	37,316	462,560	133,862	345,795	110,646	123,258	225,945
State 4-Year Colleges:																		
CSC	284,410	60,924	28,122	20,957	20,223	17,859	5,865	20,898	928	22,326	2,742	11,587	22,275	8,464	32,183	6,205	----	2,852
ECSC	288,956	37,332	35,360	24,197	21,028	9,453	4,474	8,246	----	19,060	2,380	12,495	36,351	9,624	52,039	7,488	----	9,429
NESC	291,280	59,282	40,944	16,346	15,455	13,405	3,864	11,206	355	21,000	2,766	24,904	33,516	10,821	30,780	6,636	----	----
NWSC	228,556	35,874	25,894	33,910	11,522	6,215	2,264	4,053	----	17,810	2,108	9,364	13,173	6,607	24,119	33,416	----	2,227
SESC	215,556	44,742	20,443	31,204	19,169	9,290	3,762	10,002	----	14,630	40	12,253	16,816	8,093	21,441	3,449	----	222
SWSC	240,718	40,149	37,317	20,450	20,782	11,361	3,800	7,819	1,122	9,136	2,004	8,634	24,435	7,093	36,542	10,074	----	----
OCW	203,914	29,042	21,186	29,213	14,006	8,057	4,424	4,178	----	18,055	1,024	9,204	27,097	5,158	33,270	----	----	----
PAMC	239,626	24,390	25,601	21,033	26,173	7,539	2,607	6,902	1,796	6,156	----[d]	9,858	17,242	6,199	19,740	14,733	48,636	1,021
LU	179,803	18,230	21,087	23,289	10,892	7,173	2,224	4,851	----	16,495	583	13,291	16,353	6,994	10,968	7,187	20,186	----
All 4-Year Colleges	2,172,819	349,965	255,954	220,599	159,250	90,352	33,284	78,155	4,201	144,668	13,647	111,590	207,258	69,053	261,082	89,188	68,822	15,751
State 2-Year Colleges:																		
Cameron	135,315	13,661	23,284	10,078	20,200	4,500	1,343	2,713	----	4,085	----	8,594	13,511	3,091	7,918	2,591	19,544	202
Connors	111,549	15,735	7,869	11,727	5,983	2,884	1,774	1,479	----	5,014	340	3,996	10,213	3,216	15,082	----	26,237	----
Eastern	179,706	18,850	25,965	15,542	16,747	4,251	1,918	4,827	----	4,264	----	6,269	9,694	4,261	15,724	3,607	47,451	336
Murray	121,737	10,888	14,718	10,958	4,829	4,143	998	3,596	----	5,372	----	3,118	10,933	2,376	5,964	255	43,589	----
NEOAMC	142,532	19,919	26,686	6,600	10,039	6,565	1,605	1,550	----	2,435	----	3,754	13,001	3,721	17,668	1,056	27,933	----
NOJC	141,661	15,587	25,182	14,011	13,300	4,415	2,093	4,030	----	7,448	1,050	5,922	7,619	4,559	9,101	23,804	950	2,590
OMA	151,693	21,781	9,239	19,799	10,471	1,790	1,769	4,443	----	5,622	----	7,816	18,749	4,312	42,474	3,232	----	196
All 2-Year Colleges	984,193	116,421	132,943	88,715	81,569	28,548	11,500	22,638	----	34,240	1,390	39,469	83,720	25,536	113,931	34,545	165,704	3,324
All State Institutions	7,003,796	749,779	719,064	512,212	550,727	289,167	214,134	350,954	340,056	501,804	47,544	188,375	753,538	228,451	720,808	234,379	357,784	245,020
Private Institutions:																		
Tulsa	354,124	53,562	42,342	22,034	35,073	22,292	11,094	15,759	22,427	29,724	550	6,235	25,886	12,256	38,711	5,879	----	10,300
OCC	60,562	7,384	4,325	9,928	3,535	2,326	1,442	3,579	----	3,310	----	2,710	3,494	1,878	16,651	----	----	----
St Greg	70,997	8,162	4,653	15,911	4,488	587	2,110	2,208	----	3,644	----	1,248	10,966	1,282	15,353	196	----	189
Three Private Institutions	485,683	69,108	51,320	47,873	43,096	25,205	14,646	21,546	22,427	36,678	550	10,193	40,346	15,416	70,715	6,075	----	10,489
All Institutions	7,489,479	818,887	770,384	560,085	593,823	314,372	228,780	372,500	362,483	538,482	48,094	198,568	793,884	243,867	791,523	240,454	357,784	255,509

[a] Includes all space except that in housing units, hallways, and elevators.

[b] Restrooms and janitor closets.

[c] Of this space, 611,677 feet were on the north and south campuses and 20,485 feet were at the biological station and Noble fisheries.

[d] Subsequent to the space inventory, it was discovered that a museum building at PAMC was not included in the inventory.

Table 11—Percentage Distribution of Total Assignable Physical Plant Space to 17 Room Types for 21 Oklahoma Colleges and Universities, Fall, 1963[a]

Institution	Total	General Class-Rooms	Teaching Labs	Other Instr. Space	Teaching Service	Office, Faculty	Office, Other	Office Service	Research Lab	Library	Museum or Exihibition	Audi-toriums	Physical Plant Service	Acces-sory[b]	Non-Acad. & Recreat.	Inactive	Farm Bldg.	Other
State Universities:																		
OU[c]	100.0	7.6	7.7	5.4	8.7	4.1	4.3	6.0	5.2	9.4	1.5	0.8	14.4	3.7	9.6	5.1	----	6.5
OSU	100.0	7.1	9.5	5.2	7.3	4.8	4.5	7.0	12.5	7.4	0.2	1.1	9.5	3.2	8.3	0.6	6.6	5.2
Both Universities	100.0	7.4	8.6	5.3	8.0	4.4	4.4	6.5	8.7	8.4	0.8	1.0	12.0	3.5	9.0	2.9	3.2	5.9
State 4-Year Colleges:																		
CSC	100.0	21.4	9.9	7.4	7.1	6.3	2.1	7.3	0.3	7.8	1.0	4.1	7.8	3.0	11.3	2.2	----	1.0
ECSC	100.0	12.9	12.2	8.4	7.3	3.3	1.5	2.9	----	6.6	0.8	4.3	12.6	3.3	18.0	2.6	----	3.3
NESC	100.0	20.4	14.1	5.6	5.3	4.6	1.3	3.8	0.1	7.2	0.9	8.6	11.5	3.7	10.6	2.3	----	----
NWSC	100.0	15.7	11.3	14.8	5.0	2.7	1.0	1.8	----	7.8	0.9	4.1	5.8	2.9	10.6	14.6	----	1.0
SESC	100.0	20.8	9.5	14.5	8.9	4.3	1.7	4.6	----	6.8	----	5.7	7.8	3.8	9.9	1.6	----	0.1
SWSC	100.0	16.7	15.5	8.5	8.6	4.7	1.6	3.2	0.5	3.8	0.8	3.6	10.2	2.9	15.2	4.2	----	----
OCW	100.0	14.2	10.4	14.3	6.9	4.0	2.2	2.0	----	8.9	0.5	4.5	13.3	2.5	16.3	----	----	----
PAMC	100.0	10.2	10.7	8.8	10.9	3.1	1.1	2.9	0.7	2.6	----	4.1	7.2	2.6	8.2	6.2	20.3	0.4
LU	100.0	10.1	11.7	13.0	6.1	4.0	1.2	2.7	----	9.2	0.3	7.4	9.1	3.9	6.1	4.0	11.2	----
All 4-Year Colleges	100.0	16.1	11.8	10.2	7.3	4.2	1.5	3.6	0.2	6.6	0.6	5.1	9.6	3.2	12.0	4.1	3.2	0.7
State 2-Year Colleges:																		
Cameron	100.0	10.1	17.2	7.4	14.9	3.3	1.0	2.0	----	3.0	----	6.4	10.0	2.3	5.9	1.9	14.5	0.1
Connors	100.0	14.1	7.1	10.5	5.4	2.6	1.6	1.3	----	4.5	0.3	3.6	9.1	2.9	13.5	----	23.5	----
Eastern	100.0	10.5	14.4	8.6	9.3	2.4	1.1	2.7	----	2.4	----	3.5	5.4	2.4	8.7	2.0	26.4	0.2
Murray	100.0	8.9	12.1	9.0	4.0	3.4	0.8	3.0	----	4.4	----	2.6	9.0	1.9	4.9	0.2	35.8	----
NEOAMC	100.0	14.0	18.7	4.6	7.1	4.6	1.1	1.1	----	1.7	----	2.7	9.1	2.6	12.4	0.7	19.6	----
NOJC	100.0	11.0	17.8	9.9	9.4	3.1	1.5	2.8	----	5.3	0.7	4.2	5.4	3.2	6.4	16.8	0.7	1.8
OMA	100.0	14.4	6.1	13.1	6.9	1.2	1.2	2.9	----	3.7	----	5.1	12.4	2.8	28.0	2.1	----	0.1
All 2-Year Colleges	100.0	11.8	13.5	9.0	8.3	2.9	1.2	2.3	----	3.5	0.2	4.0	8.5	2.6	11.6	3.5	16.8	0.3
All State Institutions	100.0	10.7	10.3	7.3	7.9	4.1	3.0	5.0	4.8	7.2	0.7	2.7	10.8	3.3	10.3	3.3	5.1	3.5
Private Institutions:																		
Tulsa	100.0	15.1	12.0	6.2	9.9	6.3	3.1	4.4	6.3	8.4	0.2	1.8	7.3	3.6	10.8	1.7	----	2.9
OCC	100.0	12.2	7.1	16.4	5.8	3.8	2.4	5.9	----	5.5	----	4.5	5.8	3.1	27.5	----	----	----
St Greg	100.0	11.5	6.6	22.4	6.3	0.8	3.0	3.1	----	5.1	----	1.7	15.5	1.8	21.6	0.3	----	0.3
Three Private Institutions	100.0	14.2	10.6	9.9	8.9	5.2	3.0	4.4	4.6	7.6	0.1	2.1	8.3	3.2	14.6	1.2	----	2.1
All Institutions	100.0	10.9	10.3	7.5	7.9	4.2	3.0	5.0	4.8	7.2	0.6	2.7	10.6	3.3	10.6	3.2	4.8	3.4

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[a] Includes all space except that in housing units, hallways, and elevators.

[b] Restrooms and janitor closets.

[c] Includes space at the north and south campuses, the biological station, and the Noble fisheries.

Table 12—Amount of Assignable Physical Plant Space per Full-Time-Equivalent Student by Type of Room in 21 Oklahoma Colleges and Universities, Fall, 1963[a] (amounts in square feet)

Institution	FTE Students[b]	Total	General Class-Rooms	Teaching Labs	Other Instr. Space	Teaching Service	Office, Faculty	Office, Other	Office Service	Research Lab	Library	Museum or Exhibition	Audi-toriums	Physical Plant Service	Acces-sory[c]	Non-Acad. & Recreat.	Inactive	Farm Bldg.	Other
State Universities:																			
OU[d]	11,870	166.8	12.7	12.8	8.9	14.6	6.8	7.1	10.0	8.6	15.6	2.5	1.4	24.1	6.3	16.1	8.5	----	10.8
OSU	11,421	163.4	11.6	15.6	8.5	12.0	7.8	7.4	11.4	20.4	12.0	0.3	1.8	15.5	5.2	13.6	0.9	10.8	8.6
Both Universities	23,291	165.2	12.2	14.2	8.7	13.3	7.3	7.3	10.7	14.4	13.9	1.4	1.6	19.9	5.7	14.8	4.8	5.3	9.7
State 4-Year Colleges:																			
CSC	4,719	60.3	12.9	6.0	4.5	4.3	3.8	1.2	4.4	0.2	4.7	0.6	2.5	4.7	1.8	6.8	1.3	----	0.6
ECSC	1,829	158.0	20.4	19.3	13.2	11.5	5.2	2.4	4.5	----	10.4	1.3	6.8	19.9	5.3	28.5	4.1	----	5.2
NESC	3,222	90.4	18.4	12.7	5.1	4.8	4.2	1.2	3.5	0.1	6.5	0.9	7.7	10.4	3.4	9.5	2.0	----	----
NWSC	1,074	212.8	33.4	24.1	31.6	10.7	5.8	2.1	3.8	----	16.6	2.0	8.7	12.3	6.1	22.4	31.1	----	2.1
SESC	1,577	136.7	28.4	13.0	19.8	12.1	5.9	2.4	6.3	----	9.3	----	7.8	10.7	5.1	13.6	2.2	----	0.1
SWSC	2,464	97.7	16.3	15.2	8.3	8.4	4.6	1.5	3.2	0.5	3.7	0.8	3.5	9.9	2.9	14.8	4.1	----	----
OCW	590	345.6	49.2	35.9	49.5	23.7	13.7	7.5	7.1	----	30.6	1.7	15.6	45.9	8.8	56.4	----	----	----
PAMC	850	281.9	28.7	30.1	24.8	30.8	8.9	3.1	8.1	2.1	7.2	----	11.6	20.3	7.3	23.2	17.3	57.2	1.2
LU	687	261.7	26.5	30.7	33.9	15.9	10.4	3.2	7.1	----	24.0	0.8	19.3	23.8	10.2	16.0	10.5	29.4	----
All 4-Year Colleges	17,012	127.7	20.6	15.1	13.0	9.4	5.3	1.9	4.6	0.2	8.5	0.8	6.6	12.2	4.1	15.3	5.2	4.0	0.9
State 2-Year Colleges:																			
Cameron	1,207	112.1	11.3	19.3	8.4	16.7	3.7	1.1	2.2	----	3.4	----	7.1	11.2	2.6	6.6	2.1	16.2	0.2
Connors	439	254.1	35.8	17.9	26.7	13.6	6.6	4.0	3.4	----	11.4	0.8	9.1	23.3	7.3	34.4	----	59.8	----
Eastern	730	246.2	25.8	35.6	21.3	23.0	5.8	2.6	6.6	----	5.9	----	8.6	13.3	5.8	21.5	4.9	65.0	0.5
Murray	389	312.9	28.0	37.8	28.2	12.4	10.7	2.6	9.2	----	13.8	----	8.0	28.1	6.1	15.3	0.6	112.1	----
NEOAMC	1,272	112.1	15.7	21.0	5.2	7.9	5.2	1.3	1.2	----	1.9	----	2.9	10.2	2.9	13.9	0.8	22.0	----
NOJC	626	226.3	24.9	40.2	22.4	21.3	7.1	3.3	6.4	----	11.9	1.7	9.5	12.2	7.3	14.5	38.0	1.5	4.1
OMA	702	216.1	31.0	13.2	28.2	14.9	2.6	2.5	6.3	----	8.0	----	11.1	26.7	6.2	60.5	4.6	----	0.3
All 2-Year Colleges	5,365	183.4	21.7	24.8	16.5	15.2	5.3	2.1	4.2	----	6.4	0.3	7.4	15.6	4.8	21.2	6.4	30.9	0.6
All State Institutions	45,668	153.4	16.4	15.8	11.2	12.1	6.3	4.7	7.7	7.5	11.0	1.0	4.1	16.5	5.0	15.8	5.1	7.8	5.4
Private Institutions:																			
Tulsa	3,642	97.2	14.7	11.6	6.1	9.6	6.1	3.0	4.3	6.2	8.2	0.2	1.7	7.1	3.4	10.6	1.6	----	2.8
OCC	540	112.2	13.7	8.0	18.4	6.6	4.3	2.7	6.6	----	6.1	----	5.0	6.5	3.5	30.8	----	----	----
St Greg	421	168.6	19.4	11.1	37.8	10.7	1.4	5.0	5.2	----	8.6	----	3.0	26.0	3.0	36.5	0.5	----	0.4
Three Private Institutions	4,603	105.5	15.0	11.1	10.4	9.4	5.5	3.2	4.7	4.9	7.9	0.1	2.2	8.8	3.3	15.4	1.3	----	2.3
All Institutions	50,271	149.0	16.3	15.3	11.1	11.8	6.3	4.6	7.4	7.2	10.7	1.0	3.9	15.8	4.9	15.7	4.8	7.1	5.1

[a] Includes all space except that in housing units, hallways, and elevators.

[b] The number of FTE students used here is that for the fall semester of 1963.

[c] Restrooms and janitor closets.

[d] Includes space at the north and south campuses, the biological station, and the Noble fisheries.

Table 13—Number of Rooms by Room Type in 21 Oklahoma Colleges and Universities, Fall, 1963[a]

Institution	Total	General Class-Rooms	Teaching Labs	Other Instr. Space	Teaching Service	Office, Faculty	Office, Other	Office Service	Research Lab	Library	Museum or Exhibition	Auditoriums	Physical Plant Service	Accessory[b]	Non-Acad. & Recreat.	Inactive	Farm Bldg.	Other
State Universities:																		
OU[c]	4,622	225	158	136	541	490	452	404	284	225	37	7	309	529	354	301	----	170
OSU	3,755	157	143	71	360	501	376	526	421	26	6	16	243	402	264	34	19	190
Both Universities	8,377	382	301	207	901	991	828	930	705	251	43	23	552	931	618	335	19	360
State 4-Year Colleges:																		
CSC	733	88	32	34	88	128	33	109	3	14	5	5	47	84	46	16	----	1
ECSC	498	49	32	27	74	52	13	26	----	17	2	2	41	67	69	6	----	21
NESC	581	77	36	32	64	103	19	56	2	9	3	10	47	73	37	13	----	----
NWSC	456	46	29	44	74	39	12	30	----	9	1	3	20	48	28	63	----	10
SESC	512	61	20	27	94	63	20	58	----	15	2	12	24	76	31	8	----	1
SWSC	541	51	40	33	78	80	18	45	4	13	3	7	34	59	45	31	----	----
OCW	436	41	29	68	63	41	17	27	----	17	3	9	39	52	30	----	----	----
PAMC	553	36	30	17	82	42	15	26	8	7	----	7	39	74	37	40	85	8
LU	388	27	23	30	58	37	15	26	----	12	1	12	21	57	25	15	29	----
All 4-Year Colleges	4,698	476	271	312	675	585	162	403	17	113	20	67	312	590	348	192	114	41
State 2-Year Colleges:																		
Cameron	288	21	21	8	54	33	8	21	----	3	----	7	18	27	13	22	31	1
Connors	228	25	9	7	30	20	10	17	----	6	2	2	24	28	16	----	32	----
Eastern	354	26	21	15	65	33	13	35	----	3	----	9	24	51	28	3	23	5
Murray	198	13	12	4	22	22	5	11	----	8	----	3	18	26	8	2	44	—
NEOAMC	255	25	20	9	37	31	6	9	----	3	----	1	15	37	26	1	35	—
NOJC	228	21	17	17	47	23	11	14	----	4	1	2	15	34	13	6	1	2
OMA	322	29	12	5	39	13	10	19	----	3	----	8	53	47	74	8	----	2
All 2-Year Colleges	1,873	160	112	65	294	175	63	126	----	30	3	32	167	250	178	42	166	10
All State Institutions	14,948	1,018	684	584	1,870	1,751	1,053	1,459	722	394	66	122	1,031	1,771	1,144	569	299	411
Private Institutions:																		
Tulsa	881	67	56	25	130	132	57	67	48	41	1	7	43	100	72	31	----	4
OCC	125	11	4	5	14	15	10	15	----	4	----	2	10	17	18	----	----	----
St Greg	137	15	7	4	22	1	9	5	----	4	----	5	16	21	24	1	----	3
Three Private Institutions	1,143	93	67	34	166	148	76	87	48	49	1	14	69	138	114	32	----	7
All Institutions	16,091	1,111	751	618	2,036	1,899	1,129	1,546	770	443	67	136	1,100	1,909	1,258	601	299	418

[a] Includes all space except that in housing units, hallways, and elevators.

[b] Restrooms and janitor closets.

[c] Includes space at the north and south campuses, the biological station, and the Noble fisheries.

there is quite a disparity between the two state universities with respect to the amount of research laboratory space available in them. OU has 102,936 square feet of such space while OSU has 232,919 feet. This disparity is caused primarily by the fact that space used by the Agricultural Experiment Station is included in the count for OSU. This amounts to 169,841 square feet of space.

The major part of the museum and exhibition space is located at OU and, at that institution, the Stovall Museum accounts for most of such space.

In the state institutions, over 234,000 square feet of space was inactive at the time of the study. Much of the inactive space was not being used because of the recent completion of new space and the institutions' not having had time to prepare the old space for new use. However, almost one-half of the inactive space was at OU which reflects the presence of the "temporary" buildings on the north and south campuses.

The farm building space is located much as would be expected, on the campuses of the colleges that historically have had as a basic function the teaching of agriculture. Only one institution other than the agricultural colleges, NOJC, has farm building space and that institution has very little.

Included in the "Other" category of space is such space as that used for storage of Civil Defense materials, storage of research materials, and miscellaneous kinds of other space that could not be classified in one of the other categories. Practically all of this space was at the universities which reflects the extent of the "unusual" activities of the university-type institution.

Percentage Distribution of Space.—From Table 11, the proportion of total assignable space used for general classrooms ranged from a low of 7.1 per cent at OSU to a high of 21.4 per cent at CSC. Both state universities combined used 7.4 per cent of their space for general classrooms, the state four-year colleges used 16.1 per cent for that purpose, the state two-year colleges used 11.8 per cent for that purpose, and the private institutions used 14.2 per cent of their space for classrooms. It should be kept in mind that the data do not include housing space.

The comparatively low percentage for the state universities reflects the presence of a great deal of space such as that used for research labs that is not found in abundance in other types of institutions and that causes the base to be larger. Also, in the two-year institutions there is considerable farm building space that is not present in many of the other institutions. These two factors illustrate the need for one to exercise care in interpreting the data presented in this table.

The proportion of space used for teaching laboratories ranged from a low of 6.1 per cent at OMA to a high of 18.7 per cent at NEOAMC, both institutions being two-year institutions. This is a wide difference in view of the fact that the state two-year institutions as a whole used 13.5 per cent of their space for teaching labs, whereas the state four-year institutions averaged 11.8 per cent of their space for that purpose. This is perhaps due to the inclusion of programs in the curricula of both types of institutions that require similar kinds of laboratories. As a result, the two-year institutions, being smaller institutions, would show a higher proportion of space being used for teaching laboratories.

With regard to distribution of space to faculty offices, institutions in Oklahoma generally show a rather consistent pattern. Most of the institutions show from three to four per cent of space being used for that purpose. However, two institutions, OMA and St. Gregory's, show that less than two per cent of their space is being used for faculty offices. Those two institutions have rather large enrollments of high school students and follow the typical high school pattern of faculty members using classrooms for offices.

As would be expected, the three universities are the only institutions showing significant proportions of their space being used for research laboratories. OU was using 5.2 per cent for that purpose, OSU was using 12.5 per cent, and Tulsa was using 6.3 per cent. The figure for OSU, it should be kept in mind, includes research space used by the Agricultural Experiment Station.

The library space shown in this series of tables does not include librarians' offices. Therefore, the amount of library space is different from that shown on tables presenting space by function since on those tables library space includes librarians' offices. Library space ranges from a low of 1.7 per cent at NEOAMC to a high of 9.4 per cent at OU.

Quite a variation exists with respect to the proportion of space being used for physical plant service. The range in this category was from a low of 5.4 per cent at NOJC and Eastern to a high of 15.5 per cent at St. Gregory's.

Four institutions show that more than five per cent of their space was inactive at the time of this study. These institutions were OU, PAMC, NWSC, and NOJC. As has been mentioned before, the inactive space at OU is almost all located on the north and south campuses. Because of the poor quality of much of that space and its location in relation to the main campus, OU has not seen the need to press the space into service. In other institutions that show significant proportions of their space as being inactive, the condition is due to the space having been vacated a short while before the study because of the completion of new buildings and the consequent relocation of departments. In most cases, institutional officials planned to renovate the old space for use by other departments.

Almost all farm building space is located at the agricultural colleges. The range of proportions of space used for that purpose was from a low of 6.6 per cent at OSU to a high of 35.8 per cent at Murray. This range excludes the rather insignificant proportion of 0.7 per cent at NOJC and, of course, all the institutions that had no such space. In most cases, farm building space is of poor quality although generally adequate for the use that is made of it. Much of the space of this type consists of a wood frame covered with sheet metal or wood siding. It should, therefore, be kept in mind that the farm building space does not represent an unusually large investment of money in spite of the quantity of space that is available.

Amount of Assignable Space per FTE Student.— The amount of assignable space per full-time-equivalent student is presented by room type in Table 12. It should not be expected that the total amount of space per FTE student should be the same for all institutions. Neither should it be expected that the amount of space per FTE student in all of the categories of space should be the same. However, there are some instances where it would be reasonable to expect institutions to have somewhere near the same amount of space per student.

The total amount of space per student ranges from a low of 60.3 square feet at CSC to a high of 345.6 square feet at OCW. Both of these are four-year state institutions. The private institutions as a group have the least amount of space per student with 105.5 square feet, followed by the state four-year institutions with 127.7 square feet, the state universities with 165.2 square feet, and the state two-year colleges with 183.4 square feet.

Quite a variation exists among institutions with respect to the amount of space per student being used for general classrooms. The range in this category is from a low of 11.3 square feet at Cameron to a high of 49.2 square feet at OCW. Such a wide difference should not exist in this category since the amount of classroom space that is needed is so closely related to the number of students in the institution. State universities as a whole show the least amount of space per student for general classrooms followed by the private institutions, the four-year institutions, and the two-year institutions in that order. It is interesting to note that the average amount of space per student, considering all institutions as a whole, is 16.3 square feet. This is slightly higher than that generally considered to be ample for one student station in a classroom. Therefore, if students were distributed in the same proportion as is classroom space, there would be room enough in the classrooms of Oklahoma's institutions to seat all students at one time with some space to spare.

A wide range also exists among institutions with respect to the amount of space per student being used for teaching laboratories. The range in this case is from a low of 6 square feet at CSC to a high of 40.2 square feet at NOJC. One could expect a wider range in the amount of space per student for teaching laboratories than for general classrooms since the functions of institutions dictate varying teaching laboratory space requirements. However, the disparity among Oklahoma institutions seems to be unusually great.

The range in the amount of space per student for faculty offices is from a low of 1.4 square feet at St. Gregory's to a high of 13.7 square feet at OCW. Assuming a student-teacher ratio of 18:1, seven square feet per student would allow an average of 126 square feet of office space per faculty member. Five of Oklahoma's institutions have faculty office space that is reasonably close to seven square feet per student (between six and eight square feet), twelve institutions have fewer than six square feet of faculty office spare per student, and four institutions have more than eight.

There are at least two reasons why an institution might show a high amount of space per student for faculty offices. It might (a) have a low student-teacher ratio or (b) have large and spacious offices for its faculties. Therefore, an institution with a high amount of space per student for faculty offices could have office space that is inadequate for its faculty if it has a low student-teacher ratio.

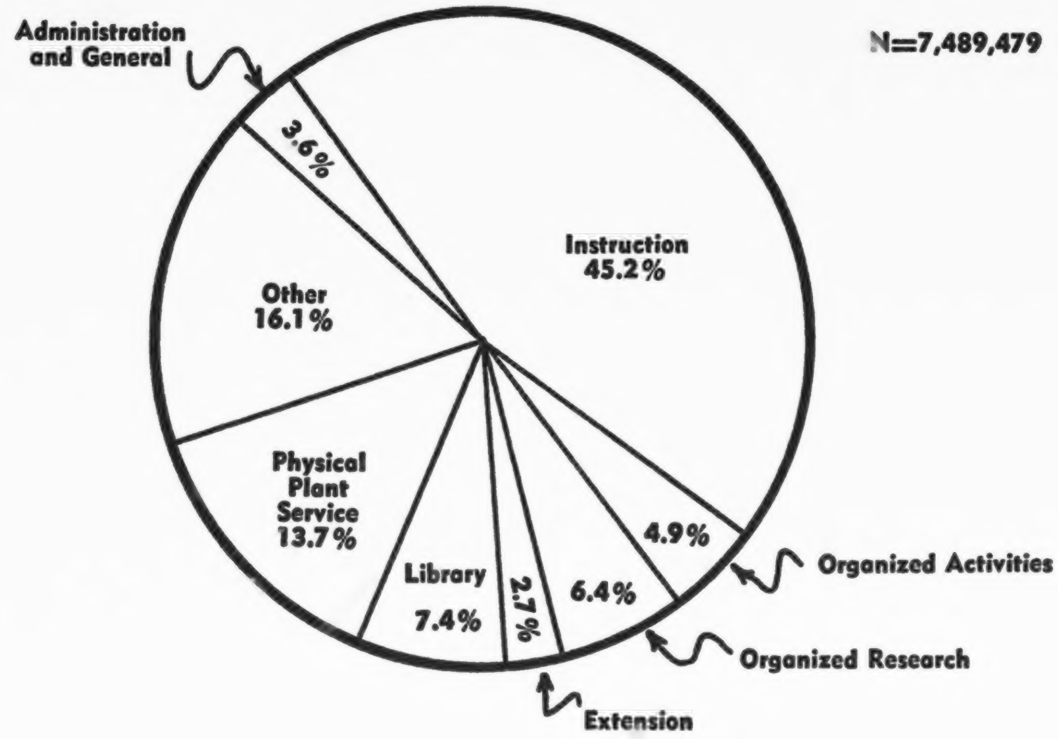
Another category of space that can be meaningfully related to institutional enrollment is library space. Almost all college library space standards are related in some way to enrollment, either in terms of the percentage of students that should be seated or the number of volumes for a given number of students, or both. However, for the 21 institutions participating in this study, the range in the amount of library space per student is from 1.9 to 30.6 square feet. The state universities considered together had the most library space per student (13.9 square feet) followed by the state four-year colleges with 8.5 square feet, the private institutions with 7.9 square feet, and the state two-year colleges with 6.4 square feet. It is reasonable to expect the university-type institution to have more library space per student due to the graduate programs and research activities and the resultant greater need for library facilities. Likewise, it is appropriate to expect four-year institutions to have more library space per student than two-year institutions.

Number of Rooms.—Table 13 shows the number of rooms by institution and by room type. Shown on the table are 16,091 rooms for all 21 participating institutions. Of this number, 14,948 are in the 18 state institutions and 1,143 are in the 3 private institutions. The rooms in the state institutions are distributed 56.1 per cent in the universities, 31.4 per cent in the four-year colleges, and 12.5 per cent in the two-year colleges.

Inventory by Function

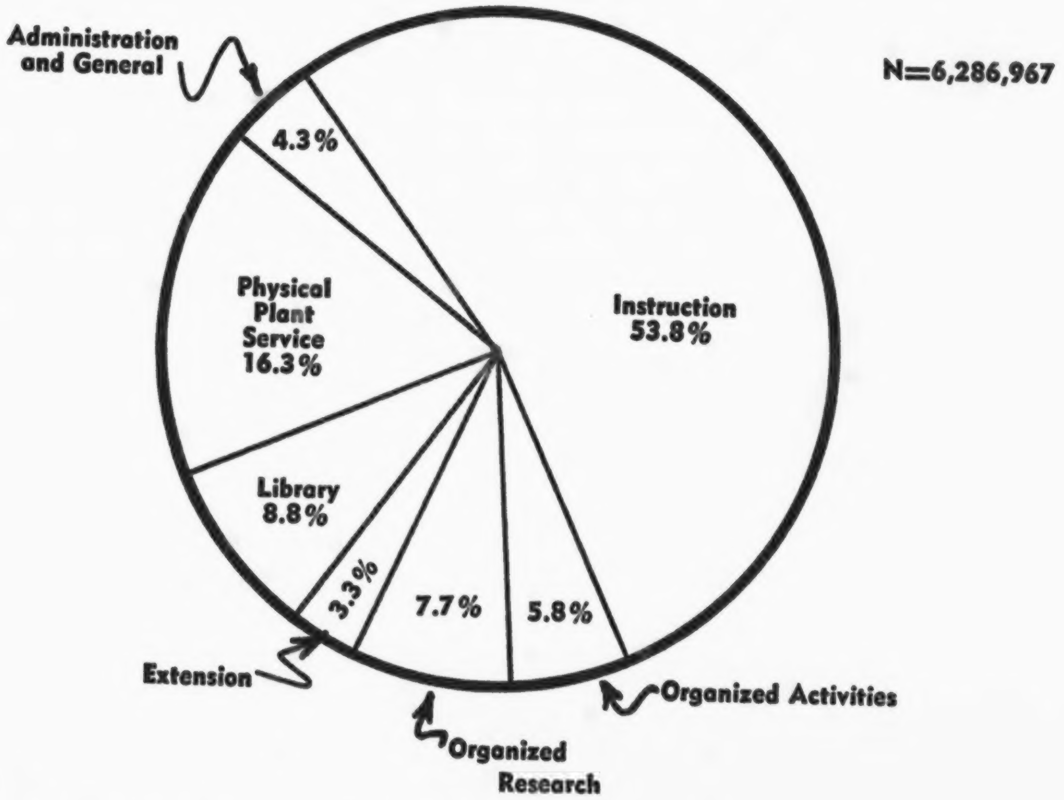
In this section, an analysis of assignable space is made by function. The functions used are the same as those used in the educational and general operating budget plus auxiliary enterprises, contract research, and non-institutional agencies. Figure B shows the distribution of total assignable space to eight functional categories.

Figure B—Proportion of Total Assignable Space in 21 Oklahoma Colleges and Universities Used for All Functions



Included in the "Other" category is space used by auxiliary enterprises, contract research, non-institutional agencies, and miscellaneous other kinds of space. If this is disregarded, the distribution of space to the seven educational and general functions would be as shown in Figure C.

Figure C—Proportion of Total Assignable Space in 21 Oklahoma Colleges and Universities Used for Seven Educational and General Functions



The distribution of educational and general space by function is surprisingly close to the distribution of educational and general expenditures by function. In 1962-63, the state-supported institutions distributed educational and general money 12 per cent to administration and general expense, 59.6 per cent to instruction, 2 per cent to organized activities, 2.7 per cent to organized research, 4.8 per cent to extension, 5 per cent to libraries, and 13.9 per cent to physical plant.

Tables 14, 15, and 16 make more complete analyses of space by institution and by function. Table 14 shows the amount of assignable space; Table 15, the percentage distribution to each function; and Table 16, the amount of space per FTE student by function.

Square Feet of Assignable Space.—The total amount of space shown by Table 14 is the same as the amount shown by Table 10. However, Table 10 classifies space by room type and Table 14 classifies space by function.

The amount of space shown in Table 14 for general classrooms and teaching laboratories for the function "Instruction and Departmental Research" is slightly different from the amount shown in Table 10 for those two room types. This difference is due to the inclusion in Table 10 of classrooms and laboratories used by laboratory and nursery schools; whereas, such space is classified under "Organized Activities" in Table 14 rather than under "Instruction and Departmental Research."

Likewise, the amount of space classified as faculty offices in Table 14 is slightly different from the amount of space for faculty offices in Table 10. The difference in this case is that the offices of faculty members who were engaged in research at the time of this study were classified as faculty offices in Table 10 but as "Organized Research" in Table 14.

The difference in the amount of library space as shown in Tables 10 and 14 results from the inclusion of librarians' offices in the "Library" function in Table 14 but in "Offices, Other" in Table 10. Also, with regard to "Physical Plant Service" space, Table 14 has janitor closets and restrooms classified as "Physical Plant Serivce" space but Table 10 has such space classified as "Accessory" space.

Several institutions have a significant amount of space that was being used by non-institutional

Table 14—Amount of Assignable Physical Plant Space by Function in 21 Oklahoma Colleges and Universities, Fall, 1963[a]
(amounts in square feet)

Institution	Grand Total	Space Used for Educational and General Operations												Aux. Enter-prises	Contract Research	Non-Inst. Agencies	Other
		Adm. & General	Instruction and Departmental Research					Org. Act.	Org. Research	Ext. & Public Service	Library	Physical Plant Service	Total Educ. & General				
			General Classrooms	Teaching Labs	Faculty Offices	Other	Total Instr.										
State Universities:																	
OU[b]	1,980,788	58,129	134,324	139,346	77,703	329,086	680,459	68,968	91,824	93,485	189,223	366,266	1,548,354	194,229	58,317	82,745	97,143
OSU[c]	1,865,996	60,616	132,134	173,428	73,427	316,466	695,455	15,810	384,086	80,872	140,791	215,194	1,592,824	153,079	56,656	45,465	17,972
Both Universities	3,846,784	118,745	266,458	312,774	151,130	645,552	1,375,914	84,778	475,910	174,357	330,014	581,460	3,141,178	347,308	114,973	128,210	115,115
State 4-Year Colleges:																	
CSC	284,410	20,395	60,924	28,122	17,859	70,400	177,305	638	----	2,742	23,136	31,181	255,397	29,013	----	----	----
ECSC	288,956	13,736	37,332	35,360	9,453	61,750	143,895	----	----	2,380	22,752	46,251	229,014	50,513	----	9,429	----
NESC	291,280	8,877	40,536	39,218	13,103	51,756	144,613	15,219	----	3,804	19,246	43,742	235,501	28,313	----	27,466	----
NWSC	228,556	8,206	35,874	25,894	6,215	75,532	143,515	----	----	15,041	19,011	17,962	203,735	21,835	----	144	2,842
SESC	215,556	8,044	38,962	20,443	9,290	61,474	130,169	11,968	----	----	14,385	24,816	189,382	21,851	----	990	3,333
SWSC	240,718	4,777	40,149	37,110	11,361	66,069	154,689	207	----	1,127	9,902	31,910	202,612	37,091	----	1,015	----
OCW	203,914	7,382	29,042	21,186	8,057	52,245	110,530	1,902	—	1,002	18,689	31,286	170,791	33,123	----	----	----
PAMC[d]	239,626	6,330	24,390	25,391	7,539	63,393	120,713	46,343	6,089	----	7,661	23,521	210,657	23,028	----	----	5,941
LU	179,803	15,196[e]	16,443	21,087	7,063	40,206	84,799	25,806	----	----	16,684	27,556	170,041	9,089	----	673	----
All 4-Year Colleges	2,172,819	92,943	323,652	253,811	89,940	542,825	1,210,228	102,083	6,089	26,096	151,466	278,225	1,867,130	253,856	----	39,717	12,116
State 2-Year Colleges:																	
Cameron	135,315	2,596	13,661	23,284	4,394	39,955	81,294	19,852	----	----	4,207	16,602	124,551	8,173	----	----	2,591
Connors	111,549	2,984	15,735	7,869	2,884	22,037	48,525	26,237	----	----	5,014	11,429	94,189	17,360	----	----	----
Eastern	179,706	5,313	18,850	25,965	4,251	40,554	89,620	50,462	----	720	4,444	13,501	164,060	15,646	----	----	----
Murray	121,737	3,987	10,888	14,718	4,143	19,024	48,773	43,589	----	48	5,064	14,312	115,773	5,964	----	----	----
NEOAMC	142,532	2,501	19,919	26,686	6,565	21,982	75,152	27,933	----	----	2,435	16,722	124,743	17,789	----	----	----
NOJC	141,661	5,406	15,587	25,182	4,415	49,280	94,464	6,150	----	1,500	7,608	14,632	129,760	9,015	----	2,470	416
OMA	151,693	7,776	21,781	9,239	1,790	40,793	73,603	----	----	----	5,622	24,275	111,276	40,221	----	----	196
All 2-Year Colleges	984,193	30,563	116,421	132,943	28,442	233,625	511,431	174,223	----	2,268	34,394	111,473	864,352	114,168	----	2,470	3,203
All State Institutions	7,003,796	242,251	706,531	699,528	269,512	1,422,002	3,097,573	361,084	481,999	202,721	515,874	971,158	5,872,660	715,332	114,973	170,397	130,434
Private Institutions:																	
Tulsa	354,124	21,497	52,806	40,222	22,292	101,585	216,905	3,361	----	1,378	31,154	39,099	313,394	29,800	----	10,930	----
OCC	60,562	4,189	7,384	4,325	2,326	16,464	30,499	----	----	930	3,310	5,372	44,300	16,262	----	----	----
St Greg	70,997	4,721	8,162	4,653	587	22,598	36,000	----	----	----	3,644	12,248	56,613	14,231	----	153	----
Three Private Institutions	485,683	30,407	68,352	49,200	25,205	140,647	283,404	3,361	----	2,308	38,108	56,719	414,307	60,293	----	11,083	----
All Institutions	7,489,479	272,658	774,883	748,728	294,717	1,562,649	3,380,977	364,445	481,999	205,029	553,982	1,027,877	6,286,967	775,625	114,973	181,480	130,434

[a] Includes all space except that in housing units, hallways, and elevators.

[b] Of this space, 611,677 feet is at the north and south campuses and 20,485 feet is at the biological station and Noble fisheries. Also, 31,748 feet was being used by the Geological Survey.

[c] Of this space, 29,255 feet was being used by the Agricultural Extension Division, 169,841 by the Agricultural Experiment Station, and 19,095 by the School of Veterinary Medicine.

[d] Of this space, 6,089 feet was being used by the Agricultural Experiment Station.

[e] Because of extraordinary circumstances, the auditorium in this institution was classified as "Administration and General" space.

Table 15—Percentage Distribution of Assignable Physical Plant Space Used for Educational and General Purposes to Seven Functions for 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	Total Educ. & General	Adm. & General	Instruction and Departmental Research					Org. Act.	Org. Research	Ext. & Public Service	Library	Physical Plant Service
			General Classrooms	Teaching Labs	Faculty Offices	Other	Total Instr.					
State Universities:												
OU	100.0	3.8	8.7	9.0	5.0	21.2	43.9	4.5	5.9	6.0	12.2	23.7
OSU	100.0	3.8	8.3	10.9	4.6	19.9	43.7	1.0	24.1	5.1	8.8	13.5
Both Universities	100.0	3.8	8.5	9.9	4.8	20.6	43.8	2.7	15.2	5.5	10.5	18.5
State 4-Year Colleges:												
CSC	100.0	8.0	23.8	11.0	7.0	27.6	69.4	0.2	----	1.1	9.1	12.2
ECSC	100.0	6.0	16.3	15.5	4.1	27.0	62.9	----	----	1.0	9.9	20.2
NESC	100.0	3.7	17.2	16.6	5.6	22.0	61.4	6.5	----	1.6	8.2	18.6
NWSC	100.0	4.0	17.6	12.7	3.1	37.1	70.5	----	----	7.4	9.3	8.8
SESC	100.0	4.3	20.6	10.8	4.9	32.4	68.7	6.3	----	----	7.6	13.1
SWSC	100.0	2.4	19.8	18.3	5.6	32.6	76.3	0.1	----	0.6	4.9	15.7
OCW	100.0	4.4	17.0	12.4	4.7	30.6	64.7	1.1	----	0.6	10.9	18.3
PAMC	100.0	3.0	11.6	12.0	3.6	30.1	57.3	22.0	2.9	----	3.6	11.2
LU	100.0	8.9	9.7	12.4	4.2	23.6	49.9	15.2	----	----	9.8	16.2
All 4-Year Colleges	100.0	5.0	17.3	13.6	4.8	29.1	64.8	5.5	0.3	1.4	8.1	14.9
State 2-Year Colleges:												
Cameron	100.0	2.1	11.0	18.7	3.5	32.1	65.3	15.9	----	----	3.4	13.3
Connors	100.0	3.1	16.7	8.4	3.1	23.4	51.6	27.9	----	----	5.3	12.1
Eastern	100.0	3.3	11.5	15.8	2.6	24.7	54.6	30.8	----	0.4	2.7	8.2
Murray	100.0	3.4	9.4	12.7	3.6	16.4	42.1	37.7	----	----	4.4	12.4
NEOAMC	100.0	2.0	16.0	21.4	5.2	17.6	60.2	22.4	----	----	2.0	13.4
NOJC	100.0	4.2	12.0	19.4	3.4	38.0	72.8	4.7	----	1.1	5.9	11.3
OMA	100.0	7.0	19.6	8.3	1.6	36.6	66.1	----	----	----	5.1	21.8
All 2-Year Colleges	100.0	3.5	13.5	15.4	3.3	27.0	59.2	20.1	----	0.3	4.0	12.9
All State Institutions	100.0	4.1	12.1	11.9	4.6	24.2	52.8	6.1	8.2	3.5	8.8	16.5
Private Institutions:												
Tulsa	100.0	6.9	16.9	12.8	7.1	32.4	69.2	1.1	----	0.4	9.9	12.5
OCC	100.0	9.5	16.7	9.7	5.2	37.2	68.8	----	----	2.1	7.5	12.1
St Greg	100.0	8.3	14.4	8.2	1.1	39.9	63.6	----	----	----	6.4	21.7
Three Private Institutions	100.0	7.3	16.5	11.9	6.1	33.9	68.4	0.8	----	0.6	9.2	13.7
All Institutions	100.0	4.3	12.3	11.9	4.7	24.9	53.8	5.8	7.7	3.3	8.8	16.3

Table 16—Amount of Assignable Plant Space per Full-Time-Equivalent Student by Function in 21 Oklahoma Colleges and Universities, Fall, 1963
(amounts in square feet)

Institution	FTE Students[a]	Total Educ. & General	Adm. & General	Instruction and Departmental Research					Org. Act.	Org. Research	Ext. & Public Service	Library	Physical Plant Service
				General Classrooms	Teaching Labs	Faculty Offices	Other	Total Instr.					
State Universities:													
OU	11,870	130.5	4.9	11.3	11.7	6.6	27.7	57.3	5.8	7.8	7.9	16.0	30.8
OSU	11,421	139.5	5.3	11.6	15.2	6.4	27.7	60.9	1.4	33.6	7.1	12.3	18.9
Both Universities	23,291	134.9	5.1	11.5	13.4	6.5	27.7	59.1	3.6	20.4	7.5	14.2	25.0
State 4-Year Colleges:													
CSC	4,719	54.1	4.3	12.9	6.0	3.8	14.9	37.6	0.1	----	0.6	4.9	6.6
ECSC	1,829	125.2	7.5	20.4	19.3	5.2	33.8	78.7	----	----	1.3	12.4	25.3
NESC	3,222	73.1	2.7	12.6	12.2	4.0	16.1	44.9	4.7	----	1.2	6.0	13.6
NWSC	1,074	189.7	7.7	33.4	24.1	5.8	70.3	133.6	----	----	14.0	17.7	16.7
SESC	1.577	120.1	5.1	24.7	13.0	5.9	39.0	82.6	7.6	----	----	9.1	15.7
SWSC	2,464	82.2	1.9	16.3	15.1	4.6	26.8	62.8	0.1	----	0.4	4.0	13.0
OCW	590	289.5	12.5	49.2	35.9	13.7	88.6	187.4	3.2	----	1.7	31.7	53.0
PAMC	850	247.8	7.4	28.7	29.9	8.8	74.6	142.0	54.5	7.2	----	9.0	27.7
LU	687	247.5	22.1	23.9	30.7	10.3	58.5	123.4	37.6	----	----	24.3	40.1
All 4-Year Colleges	17,012	109.8	5.5	19.0	14.9	5.3	31.9	71.1	6.0	0.4	1.5	8.9	16.4
State 2-Year Colleges:													
Cameron	1,207	103.2	2.1	11.3	19.3	3.7	33.1	67.4	16.4	----	----	3.5	13.8
Connors	439	214.6	6.8	35.9	17.9	6.6	50.2	110.6	59.8	----	----	11.4	26.0
Eastern	730	224.7	7.3	25.8	35.6	5.8	55.5	122.7	69.1	----	1.0	6.1	18.5
Murray	389	297.6	10.2	28.0	37.8	10.7	48.9	125.4	112.1	----	0.1	13.0	36.8
NEOAMC	1,272	98.1	2.0	15.6	21.0	5.2	17.3	59.1	22.0	----	----	1.9	13.1
NOJC	626	207.3	8.6	24.9	40.2	7.1	78.7	150.9	9.8	----	2.4	12.2	23.4
OMA	702	158.5	11.1	31.0	13.2	2.5	58.1	104.8	----	----	----	8.0	34.6
All 2-Year Colleges	5,365	161.1	5.7	21.7	24.8	5.3	43.5	95.3	32.5	----	0.4	6.4	20.8
All State Institutions	45,668	128.6	5.3	15.5	15.3	5.9	31.1	67.8	7.9	10.6	4.4	11.3	21.3
Private Institutions:													
Tulsa	3,642	86.0	5.9	14.5	11.1	6.1	27.9	59.6	0.9	----	0.4	8.5	10.7
OCC	540	82.0	7.8	13.7	8.0	4.3	30.5	56.5	----	----	1.7	6.1	9.9
St Greg	421	134.5	11.2	19.4	11.0	1.4	53.7	85.5	----	----	----	8.7	29.1
Three Private Institutions	4,603	90.0	6.6	14.8	10.7	5.5	30.6	61.6	0.7	----	0.5	8.3	12.3
All Institutions	50,271	125.1	5.4	15.4	14.9	5.9	31.1	67.3	7.2	9.6	4.1	11.0	20.5

[a] The number of FTE students used here is that for the fall semester of 1963.

agencies at the time of the study. At OU, 82,745 square feet of space was being used in this way, most of which was space being leased to industrial concerns for research purposes. The 45,465 square feet of space at OSU was primarily space being leased to a federal agricultural agency. ECSC also had 9,429 square feet of space being used by a federal agency. At NESC, 27,466 square feet of space was being used by the Tahlequah school system for a public school building. Tulsa had 10,930 square feet of space that was given to it by an oil company but which was still being used by the company.

Of the total assignable physical plant space inventoried in this study, 6,286,967 square feet, or 84 per cent, was educational and general space, 10.4 per cent was auxiliary enterprise space, 1.5 per cent was contract research space, 2.4 per cent was space used by non-institutional agencies, and 1.7 per cent was miscellaneous other kinds of space. Since educational and general space is of primary concern in this study, the remaining tables in this section will be devoted to analyses of that space.

Percentage Distribution of Space.—Table 15 shows the percentage distribution of total educational and general space to seven functions. One function, "Instruction and Departmental Research" is further subdivided into four room-type categories.

The proportion of space used for administration and general purposes ranged from a low of 1.4 per cent at OCW to a high of 9.5 per cent at OCC. The state two-year colleges showed the least proportion of space being used for this purpose (3.5 per cent) as compared with 3.8 per cent for the state universities, 5 per cent for the state four-year colleges, and 7.3 per cent for the private institutions.

In the area of instructional space, Murray showed the lowest proportion (42.1 per cent) and SWSC showed the highest (76.3 per cent). It was the private institutions as a whole that used the highest proportion of their space for instruction (68.4 per cent) and the state universities that used the lowest proportion for that purpose (43.8 per cent). The low percentage of total space being used for instruction at Murray is largely accounted for by the fact that a great deal of farm building space is located there. The inclusion of this farm building space causes the total to be inflated, and the proportion for instruction to be lower.

Five institutions had no space being used for organized activities. Of the 16 institutions that did use some space for that purpose, the range was from a low of 0.1 per cent at SWSC to a high of 37.7 per cent at Murray. The private institutions as a whole were using the lowest proportion of their space for organized activities (0.8 per cent) and the state two-year colleges were using the highest (20.1 per cent). Generally the agricultural colleges were using significant proportions of their space for organized activities, reflecting the presence of farm buildings since the college farms were considered organized activities.

Only three institutions were using space for organized research—OU, OSU, and CSC. OU was using 5.9 per cent of its space for that purpose, OSU was using 24.1 per cent, and CSC was using 2.9 per cent. The rather high proportion for OSU is due to the inclusion of space used by the Agricultural Experiment Station. It should be kept in mind that there were other research activities going on in the two state universities requiring 58,317 square feet of space at OU and 56,656 square feet at OSU. This was contract research being financed from outside sources.

Three institutions show significant proportions of their space being used for extension and public services, those being OU, OSU, and NWSC. At OU, 6 per cent of the space was being used for this purpose; at OSU, 5.1 per cent; and at NWSC, 7.4 per cent. Included in this category at OU is space that was being used for the Stovall Museum as well as the space used to house all the extension study activities. At OSU, a great deal of the space in this category was being used by the Agricultural Extension Division. Space at NWSC that was classified as "Extension and Public Services" was space being used for a museum as well as abandoned library space that was to be converted to museum use.

The state universities as a whole used the highest percentage of their space for libraries (10.5 per cent) followed by the private institutions with 9.2 per cent, the state four-year colleges with 8.1 per cent, and the state two-year colleges with 4 per cent. The range for individual institutions was from a low of 2 per cent at NEOAMC to a high of 12.2 per cent at OU.

OU also had the highest proportion of space devoted to physical plant operation and maintenance. That institution was using 23.7 per cent for physical plant operation. The institution with the lowest percentage in this category was Eastern with 8.2 per cent.

Amount of Space per FTE Student.—The amount of assignable physical plant space per FTE student by function is shown by Table 16. This table is similar to Table 12 in construction. However, Table 16 does not include space being used for auxiliary enterprises, contract research, non-institutional agencies, and a few other miscellaneous purposes.

The total amount of educational and general space per student ranges from a low of 54.1 square feet at CSC to a high of 297.6 square feet at Murray. The private institutions as a group have the least amount of educational and general space per student with 90 square feet, the state four-year colleges have 109.8 square feet, the state universities have 134.9 square feet, and the state two-year colleges have the most space with 161.1 square feet.

The amount of space per student that is used for administration and general purposes is fairly consistent from one type of institution to another. The state universities considered as a whole were using 5.1 square feet per student for that purpose, the state four-year colleges were using 5.5 square feet, the state two-year colleges were using 5.7 square feet, and the private institutions were using 6.6 square feet per student for administration and general purposes. There were, however, several institutions that varied considerably from the average. The range was from a low of 1.9 square feet at SWSC to a high of 22.1 square feet at LU. It should be pointed out, though, that because of extraordinary circumstances, the auditorium at LU was included in this category which resulted in a higher per student figure. As a result of the location of the institution, the auditorium at LU is used primarily for student entertainment which puts it in the student service category, part of administration and general.

The range in the amount of instructional space per student was from a low of 37.6 square feet at CSC to a high of 187.4 square feet at OCW. The state universities as a whole were using the least amount of space per student, 59.1 square feet, and the state two-year colleges were using the greatest amount, 95.3 square feet.

The large amount of farm building space at Murray shows up quite dramatically in the "Organized Activities" column of Table 16. Murray was using 112.1 square feet of space per student for organized activities.

The amount of library space per student varies from a low of 1.9 square feet per student at NEOAMC to a high of 31.7 square feet per student at OCW. The state universities averaged the most space per student for libraries (14.2 square feet) and the state two-year colleges were using the least (6.4 square feet). The average for all institutions was 11 square feet per FTE student.

The average amount of space per student for physical plant operation and maintenance was 20.5 square feet. The range here was from a low of 6.6 square feet at CSC to a high of 53 square feet at OCW.

Analysis of Faculty Office Space

Because of the importance of adequate faculty office space to an institution, it was deemed appropriate to inventory faculty office space in such a way that it could be analyzed separately. Table 17 presents information relative to the faculty office space available in the various institutions that participated in the study.

The first column of Table 17 shows the total number of faculty offices, the next six columns categorize the offices according to the number of faculty stations in each office, the seventh column shows the total number of stations, the eighth column shows the square feet of space being used for faculty offices, and the ninth column shows the average square feet of space per station. The last column shows the number of full-time faculty who did not have an office assigned to them at the time of the study. Not included in this analysis were the offices of graduate assistants and other part-time faculty.

For obvious reasons, it is generally considered desirable for faculty members to have private offices. Faculty members need privacy in order to be able to counsel students effectively. Also, the research, writing, and study that constitute such a large part of the work of college faculties demand privacy in order for there to be adequate productivity. Although Oklahoma institutions have not done badly by their faculty with respect to office space, it would seem that the situation could be improved markedly at some institutions. Out of the 1,896 faculty offices in the 21 institutions, 1,502 or 79.2 per cent had one station, 308 or 16.2 per

Table 17—Analysis of Faculty Office Space in 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	Total Number Offices	Stations per Office												Total Stations	Total Sq. Ft. Office Space	Av. Sq. Ft. per Station	No. FT Faculty Without Offices
		1		2		3		4		5		6 or more					
		No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent				
State Universities:																	
OU	490	408	83.3	61	12.4	19	3.9	1	0.2	1	0.2	----	----	596	81,361	136.5	----
OSU	501	357	71.3	111	22.1	19	3.8	9	1.8	3	0.6	2	0.4	703	88,906	126.5	35
Both Universities	991	765	77.2	172	17.4	38	3.8	10	1.0	4	0.4	2	0.2	1,299	170,267	131.1	35
State 4-Year Colleges:																	
CSC	128	99	77.3	24	18.7	4	3.2	1	0.8	----	----	----	----	163	17,859	109.6	3
ECSC	52	42	80.8	5	9.6	3	5.8	2	3.8	----	----	----	----	69	9,453	137.0	----
NESC	101	94	93.1	7	6.9	----	----	----	----	----	----	----	----	108	13,103	121.3	----
NWSC	39	30	76.9	8	20.5	1	2.6	----	----	----	----	----	----	49	6,215	126.8	----
SESC	63	54	85.7	9	14.3	----	----	----	----	----	----	----	----	72	9,290	129.0	----
SWSC	80	74	92.5	5	6.2	1	1.3	----	----	----	----	----	----	87	11,361	130.6	----
OCW	41	39	95.1	2	4.9	----	----	----	----	----	----	----	----	43	8,057	187.4	----
PAMC	42	36	85.7	5	11.9	----	----	1	2.4	----	----	----	----	50	7,539	150.8	----
LU	36	27	75.0	7	19.4	2	5.6	----	----	----	----	----	----	47	7,063	150.3	----
All 4-Year Colleges	582	495	85.0	72	12.4	11	1.9	4	0.7	----	----	----	----	688	89,940	130.7	3
State 2-Year Colleges:																	
Cameron	33	19	57.6	11	33.3	2	6.1	1	3.0	----	----	----	----	51	4,500	88.2	1
Connors	20	19	95.0	----	----	1	5.0	----	----	----	----	----	----	22	2,884	131.1	----
Eastern	33	33	100.0	----	----	----	----	----	----	----	----	----	----	33	4,251	128.8	----
Murray	22	17	77.3	5	22.7	----	----	----	----	----	----	----	----	27	4,143	153.1	----
NEOAMC	31	21	67.8	8	25.8	1	3.2	1	3.2	----	----	----	----	44	6,565	149.2	----
NOJC	23	19	82.7	1	4.3	2	8.7	1	4.3	----	----	----	----	31	4,415	142.4	----
OMA	13	9	69.2	3	23.1	----	----	1	7.7	----	----	----	----	19	1,790	94.2	14
All 2-Year Colleges	175	137	78.3	28	16.0	6	3.4	4	2.3	----	----	----	----	227	28,548	125.8	15
All State Institutions	1,748	1,397	79.9	272	15.6	55	3.2	18	1.0	4	0.2	2	0.1	2,214	288,755	130.4	53
Private Institutions:																	
Tulsa	132	96	72.7	32	24.3	2	1.5	2	1.5	----	----	----	----	174	22,292	128.1	----
OCC	15	9	60.0	4	26.6	1	6.7	1	6.7	----	----	----	----	24	2,326	96.9	----
St Greg	1	----	----	----	----	----	----	----	----	----	----	1	100.0	8	587	73.4	----
Three Private institutions	148	105	71.0	36	24.3	3	2.0	3	2.0	----	----	1	0.7	206	25,205	122.4	----
All Institutions	1,896	1,502	79.2	308	16.2	58	3.1	21	1.1	4	0.2	3	0.2	2,420	313,960	129.7	53

cent had two stations, 58 or 3.1 per cent had 3 stations, 21 or 1.1 per cent had 4 stations, 4 or 0.2 per cent had 5 stations, and 3 or 0.2 per cent had 6 or more stations.

The average amount of space per station in faculty offices of all 21 institutions was 129.7 square feet. This compares quite favorably with generally recommended standards which run anywhere from 120 to 150 square feet per station. There were five institutions, however, that had an average under 120 square feet. Those five institutions were CSC, Cameron, OMA, OCC, and St. Gregory's.

Only four institutions indicated that they had full-time faculty who did not have offices assigned to them. Those institutions were OSU, CSC, Cameron, and OMA. At OMA, faculty members generally have classrooms assigned to them that are used both for faculty offices and classrooms. Thus, 14 faculty members are shown to have no private offices. As more space becomes available in these institutions, priority should be given to providing private offices for the faculty.

Part IV—Utilization of General Classrooms and Teaching Laboratories

In Parts II and III of this report, data were presented relative to the amount and general quality of physical plant space of various kinds that is available in the 21 institutions participating in this study. This section will deal with the use of general classrooms and teaching laboratories.

It will be recalled from Part III that general classrooms and teaching laboratories in Oklahoma institutions account for a little more than a fifth of total space. Such a statistic will perhaps suggest to some that the amount of space in this report devoted to analyses of general classrooms and teaching laboratories is excessive. However, for several reasons the degree of concern of higher education institutions for classrooms and laboratories is disproportionate to the amount of space that they require.

When large enrollment increases occur, the space needs of most immediate concern are those for housing and instructional space. Only if one has a place to live and a seat in a classroom can he function effectively as a student. Since the responsibility for the housing of students can be shifted from the institution, the provision of adequate classroom and laboratory space perhaps then becomes an item of first consideration. After any classroom and laboratory space shortages that might exist are taken care of, attention can then be turned to space needs in other sectors.

General classroom and teaching laboratory space needs are almost entirely dependent upon numbers of students, the extent to which those students use the classrooms and labs, and the extent to which it is expected that they be utilized. Therefore, valid assessments of present classroom and laboratory space needs and projections of future needs must be based upon those three factors.

This space utilization study was not made to show only how well or how poorly various institutions are presently using their classrooms and laboratories. Of more importance were (1) the provision of institutions with information that they need in order to make more effective use of existing space, (2) the determination of the number of additional students that can be satisfactorily accommodated with present space, (3) the determination of how much and at what point in the future new space must be built, and (4) the determination of the amount of substandard space that should be abandoned and replaced.

It should be kept in mind that a higher rate of utilization of classrooms and labs can only be accomplished by a reduction in the amount of such space or by an increase in the number of students and the extent to which those students occupy physical plant facilities. If either occurs, there must be corresponding improvements in scheduling practices.

One should not conclude from the data presented in this section that because an institution has ample classroom and laboratory space to meet current needs it has no need to expand its physical plant space. The data that appear in this section are quantitative only and do not reflect the quality of instructional space or its specialized use. Thus, an institution might have an adequate amount of instructional space, half of which is unsatisfactory and should be replaced. Also, there might very well be evidence of needed space in other areas.

Terms Used in this Section

In order for one to be able to interpret the data that follow, it is necessary that he be familiar with terms that are used. These are as follows:

Class Enrollment.—The number of students in a class. This figure, for the purposes of the study, included the number of students appearing on the instructor's official class list of the fall semester census date (week in which October 15 falls). The figure included all who required accommodations in the place where the class met whether they were enrolled for credit or as auditors.

Period.—A period of time approximating one hour, generally 50 minutes, during which time the class was assembled. A class meeting scheduled for two consecutive hours, possibly a total of 110 minutes, was considered as two class periods. A class meeting scheduled for 1½ hours (75 to 80 minutes of actual instruction), was processed as 1½ class periods.

Room-Period Use.—The number of hours that a room was occupied by a class. A room was considered to be in use whenever a scheduled class meeting was held in it, regardless of the size of the class. A room in which a class was scheduled for less than a full period was processed by rounding to the nearest half period.

Station.—The area necessary to accommodate one person at a given time. A station in a classroom was considered to be the area occupied by a chair, seat, laboratory desk, or some other facility necessary to accommodate one student during an instructional period. A station in an office was considered to be a desk and a chair and other office-type equipment required to accommodate one person.

Optimum Stations.—The number of stations that practicably could be contained in a room as opposed to the number of stations that were actually there.

Student-Station-Period Occupancy.—The number of student-stations occupied in a given time period. For example, if a room was occupied six periods on Monday by classes that averaged 20 students, the student-station-period occupancy for that room for Monday was 120.

Size and Capacity of Classrooms and Laboratories

Table 18 presents such information about classrooms and laboratories as the (1) number, (2) amount of space in them, (3) average size, (4) number of stations, and (5) amount of space per station. There were 774,883 square feet of space in the 1,053 classrooms that were inventoried in the study. The average size of classroom for all institutions was 735.9 square feet. The private institutions as a group had the largest classrooms, followed by the state universities, the state four-year colleges, and the state two-year colleges, in that order. Considering individual institutions, the one with the smallest classrooms, on the average, was St. Gregory's with 544.1 square feet. OSU had the largest with 841.6 square feet.

In all of the institutions, there were 52,440 actual stations in the classrooms with an average of 14.8 square feet per actual station. The range among institutions was from a low of 12.3 square feet at NESC to a high of 24.3 square feet at OMA. As an indication of how these figures compare with institutions in other states, a study made in Kansas in 1960 showed an average of 17.7 square feet per station in 42 institutions.[5] Another study made in Illinois in 1963 showed an average of 14.9 square feet per station in 62 institutions.[6] One made in Florida in 1958 showed an average of 15.6 feet per station in three institutions.[7] A study in New Mexico in 1957 showed an average of 16.5 feet per station in seven institutions.[8] A Wisconsin study made in 1961 reported an average of 14 feet per station in 11 institutions.[9]

Since institutions generally vary somewhat with respect to the amount of space they use per station in a classroom or laboratory, it was deemed necessary to determine the number of stations that could practicably be contained in classrooms and

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[5] Robert J. Keller, A. L. Pugsley, and Nathaniel Evers, *Comprehensive Educational Survey of Kansas*, Vol. V (Topeka: Kansas Legislative Council, 1960), p. 245.

[6] Harlan D. Bareither, *et al.*, *Physical Facilities*, A Report to the Illinois Board of Higher Education (Springfield: Illinois Board of Higher Education, 1963), p. 5.

[7] Board of Control of the State University System of Florida, *The Utilization of Instructional Space in the State University System of Florida (Tallahassee: The* Board of Control, 1958), p. 4.

[8] Donald C. Moyer, *Survey of Utilization of Instructional Space in Seven New Mexico State-Controlled College-Level Institutions* (Santa Fe: Board of Educational Finance, 1959), p. 6.

[9] *Physical Facilities Survey and Utilization Study* (Madison: Coordinating Committee for Higher Education in Wisconsin, 1961), p. 14.

Table 18—An Analysis of General Classroom and Teaching Laboratory Space in 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	No. Classrooms	Sq. Ft. Classroom Space	Average Size of Classroom	No. Actual Stations	Ft. per Actual Station	No. Optimum Stations	Ft. per Optimum Station	No. Labs	Sq. Ft. Lab Space	Average Size of Lab	No. Actual Stations	Ft. per Actual Station	No. Optimum Stations	Ft. per Optimum Station
State Universities:														
OU	202	134,324	665.0	10,575	12.7	8,811	15.2	145	139,346	961.0	4,064	34.3	3,522	39.6
OSU	157	132,134	841.6	9,347	14.1	8,858	14.9	138	173,428	1,256.7	3,806	45.6	3,518	49.3
Both Universities	359	266,458	742.2	19,922	13.4	17,669	15.1	283	312,774	1,105.2	7,870	39.7	7,074	44.2
State 4-Year Colleges:														
CSC	88	60,924	692.3	4,519	13.5	4,251	14.3	32	28,122	878.8	989	28.4	839	33.5
ECSC	49	37,332	761.9	2,596	14.4	2,672	14.0	32	35,360	1,105.0	761	46.5	724	48.8
NESC	52	40,536	779.5	3,306	12.3	3,150	12.9	34	39,218	1,153.5	1,370	28.6	1,272	30.8
NWSC	46	35,874	779.9	2,035	17.6	2,101	17.1	29	25,894	892.9	684	37.9	642	40.3
SESC	54	38,962	721.5	2,334	16.7	2,616	14.9	20	20,443	1,022.2	453	45.1	453	45.1
SWSC	51	40,149	787.2	2,615	15.4	2,394	16.8	38	37,110	976.6	1,162	31.9	1,116	33.3
OCW	41	29,042	708.3	1,330	21.8	1,679	17.3	29	21,186	730.6	556	38.1	575	36.8
PAMC	36	24,390	677.5	1,378	17.7	1,551	15.7	29	25,391	875.6	731	34.7	657	38.6
LU	25	16,443	657.7	957	17.2	1,103	14.9	23	21,087	916.8	667	31.6	614	34.3
All 4-Year Colleges	442	323,652	732.2	21,070	15.4	21,517	15.0	266	253,811	954.2	7,373	34.4	6,892	36.8
State 2-Year Colleges:														
Cameron	21	13,661	650.5	837	16.3	884	15.5	21	23,284	1,108.8	608	38.3	547	42.6
Connors	25	15,735	629.4	776	20.3	1,027	15.3	9	7,869	874.3	186	42.3	203	38.8
Eastern	26	18,850	725.0	1,197	15.7	1,219	15.5	21	25,965	1,236.4	684	38.0	699	37.1
Murray	13	10,888	837.5	550	19.8	690	15.8	12	14,718	1,226.5	322	45.7	299	49.2
NEOAMC	25	19,919	796.8	1,198	16.6	1,260	15.8	20	26,686	1,334.3	610	43.7	572	46.7
NOJC	21	15,587	742.2	859	18.1	994	15.7	17	25,182	1,481.3	405	62.2	440	57.2
OMA	29	21,781	751.1	895	24.3	1,164	18.7	12	9,239	769.9	321	28.8	337	27.4
All 2-Year Colleges	160	116,421	727.6	6,312	18.4	7,238	16.1	112	132,943	1,187.0	3,136	42.4	3,097	42.9
All State Institutions	961	706,531	735.2	47,304	14.9	46,424	15.2	661	699,528	1,058.3	18,379	38.1	17,063	41.0
Private Institutions:														
Tulsa	66	52,806	800.1	4,136	12.8	3,843	13.7	45	40,222	893.8	1,029	39.1	1,145	35.1
OCC	11	7,384	671.3	464	15.9	436	16.9	4	4,325	1,081.3	114	37.9	115	37.6
St Greg	15	8,162	544.1	536	15.2	546	14.9	7	4,653	664.7	143	32.5	148	32.5
Three Private Institutions	92	68,352	743.0	5,136	13.3	4,825	14.2	56	49,200	878.6	1,286	38.3	1,408	34.9
All Institutions	1,053	774,883	735.9	52,440	14.8	51,249	15.1	717	748,728	1,044.3	19,665	38.1	18,471	40.5

labs as well as the actual number that were present. In order to do that, a staff member from the Regents' office examined every classroom and lab in all 21 institutions and made judgments concerning the optimum number of stations that could be contained in them without overcrowding. The "number of optimum stations" for both classrooms and laboratories appear as a part of Table 18.

There were 51,249 optimum stations in the classrooms of all 21 institutions as compared with 52,440 actual stations, reflecting a slightly crowded situation for all institutions considered as a whole. It was a few of the larger institutions, however, that tended to crowd more stations in a room than was considered desirable. Altogether, 14 out of the 21 institutions could comfortably place more stations in their classrooms.

Some variation exists among institutions with respect to the amount of space per optimum station in classrooms. The range is from a low of 12.9 square feet per station at NESC to a high of 18.7 square feet per station at OMA. Private institutions as a group show the lowest figure in this category of 14.2 square feet as compared with 15 square feet for the state four-year colleges, 15.1 square feet for the state universities, and 16.1 square feet for the state two-year colleges. The average size of optimum station in classrooms now in use in all Oklahoma institutions in the study was 15.1. This figure is not unrealistic for purposes of planning future space needs.

The amount of space that is required per station in a classroom or lab depends on several factors—the size of the room, structural features of the room, the type of equipment making up the "station," and the like. Generally speaking, the smaller the room the more the space that is required per station because circulatory and other such space must be distributed over a lesser number of stations. More space is required per station when there are columns or other structural obstructions present in a room or when the physical layout of the room is poor. The amount of space that is required per station depends to a large extent upon the type of equipment that is used, particularly in laboratories. For example, the kinds of equipment that are necessary to make up one station in a home economics laboratory takes up a great deal more space than the equipment required for a typewriting laboratory. Likewise, the seats used in an auditorium-type classroom require less space than the armchairs that are generally used in classrooms.

Since institutions vary with respect to the factors mentioned above, it is logical to assume that the amount of space per station in classrooms will vary. At NESC, rather large classrooms have generally been provided that are relatively free of structural impediments and that are equipped with chairs that require a minimum of space. At OMA, on the other hand, the classrooms are somewhat smaller on the average and are generally equipped with desk-type chairs that require more space. At OMA teaching equipment present in classrooms absorbs a significant amount of space. Also, the faculty generally maintain offices in classrooms; thus necessitating space for filing cabinets, bookcases, and other office equipment not usually found in classrooms.

In all of the institutions that participated in the study, there were 717 teaching laboratories containing 748,728 square feet of space. The average size of laboratories was 1,044.3 square feet. In these 717 laboratories, there were 19,665 stations with an average of 38.1 square feet per station. However, there were considered to be 18,471 optimum stations for an average of 40.5 square feet per station.

Institutions varied a great deal with respect to the average square feet per station in teaching laboratories. OMA had the lowest number of square feet per optimum station in laboratories with 27.4 while NOJC had the highest with 57.2. The private institutions as a group had the lowest number of square feet per optimum station in labs (34.9) as compared with 36.8 for the state four-year colleges, 42.9 for the state two-year colleges, and 44.2 for the state universities.

Summary of General Classroom and Teaching Laboratory Utilization

Instructional space utilization studies that have been made in other states typically have included analyses of the extent to which rooms are used and the extent to which student stations are used. Generally, data have been presented in terms of the number of hours per week that rooms and student stations are used as well as the per cent of time that they are used, based on an assumption with regard to the length of week.

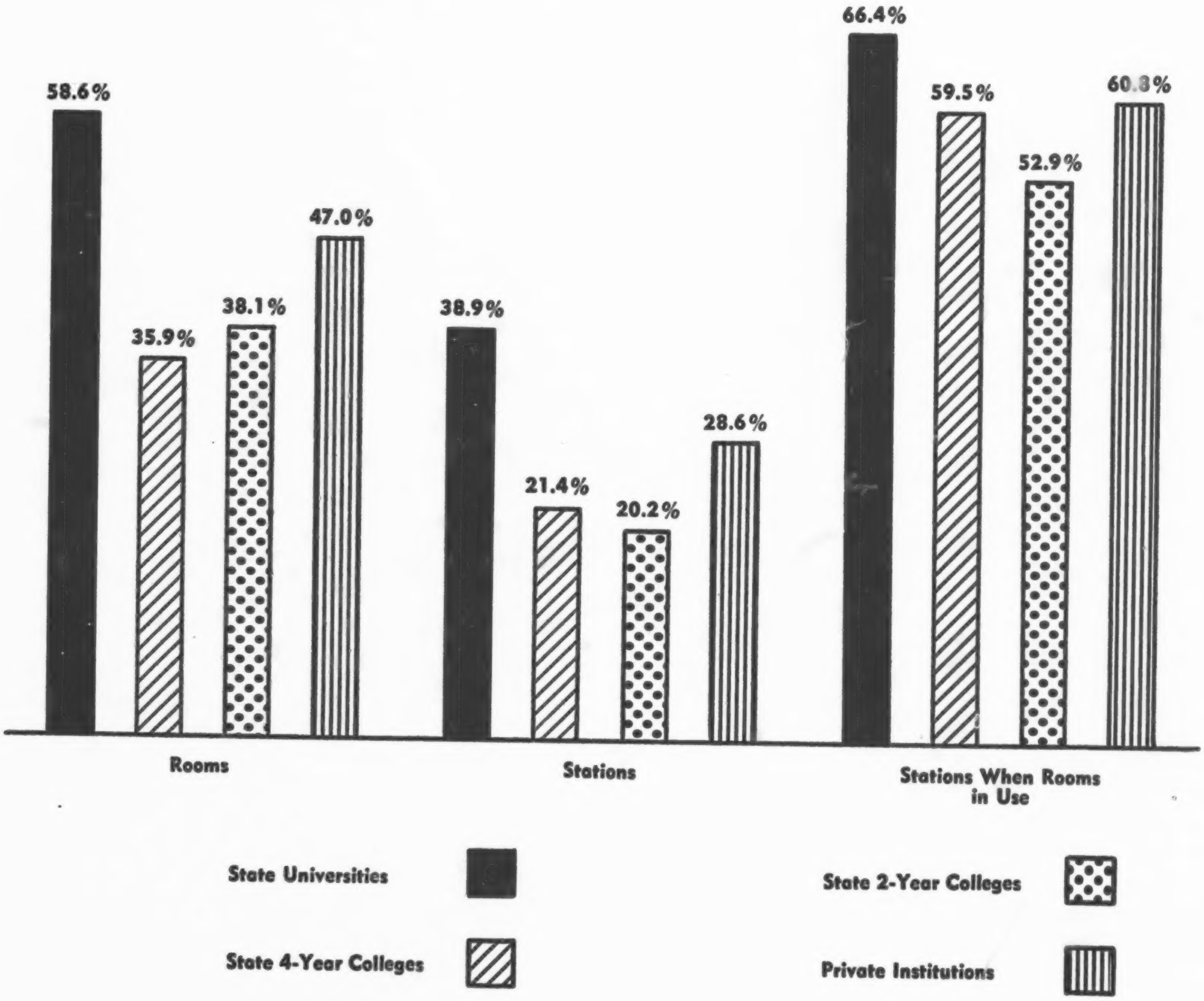
The length of week that has been assumed in other states has varied somewhat, usually from a

40- to 45-hour week. Most states, however, have assumed a 44-hour week or an 8-hour day for five days and 4 hours on Saturday. In fact, available normative data are based on a 44-hour week and, since it would seem desirable to compare data from Oklahoma institutions with data from institutions in other states, a 44-hour week has been assumed for the purposes of this study.

Actually, it makes little difference what length of week is assumed. Since it serves as nothing but a yardstick, it becomes a question a great deal like that of whether to use a 6-inch or an 8-inch rule. The only problem involved is that the larger the assumed base the smaller the utilization percentage. This can be good or bad depending upon whether the institution wants to show a need for more students or more space.

Utilization of Classrooms.—Figure D makes a comparison of the extent to which general classrooms are utilized in the various types of institutions.

Figure D—Comparison of the Per Cent of Utilization of General Classrooms in 21 Oklahoma Colleges and Universities by Type of Institution, Fall, 1963



As can be seen from Figure D, in all three indexes the state universities show the highest per cent of utilization followed by the private institutions, the state four-year colleges, and the state two-year colleges, in that order. The only exception is in the case of room utilization where the state two-year colleges use their rooms slightly more than do the state four-year institutions.

The per cent of room use, it will be remembered, designates the proportion of time that rooms are used irrespective of the extent to which the rooms are filled when they are used. The per cent of station use designates the proportion of time that individual stations are used irrespective of any consideration of room use. The per cent of station use when rooms are used designates the extent to which rooms are filled during only those hours that classes are scheduled in them.

Table 19 makes an institution-by-institution comparison of general classroom utilization. The fifth column of Table 19 shows the per cent of room-period utilization. It can be seen from that column that institutions ranged from a low of 24.2 per cent room-period utilization at NOJC to a high of 62 per cent at OSU. This represented an average room-period use of 10.7 at NOJC and 27.3 at OSU. In other words, NOJC used their classrooms 10.7 hours a week, on the average, while OSU used its classrooms 27.3 hours a week.

As would be expected, the figures showing the per cent of student-station-period utilization (next to last column of Table 19) are lower than the room-period utilization figures. This is caused by the fact that it is seldom possible to fill rooms to capacity. Thus the student-station-period utilization figures reflect not only the hours that rooms are not used but also the stations that are not used when rooms are used. The range in student-station-period utilization is from a low of 10.1 per cent at OCW to a high of 41.3 per cent at OU.

The last column of Table 19 shows the per cent of student-station-period use when rooms are in use. In this calculation, the hours when rooms are not used are disregarded. The range here is from a low of 40.2 per cent at OCW to a high of 73.9 per cent at OU.

Utilization of Laboratories.—From Figure E it can be seen how the different types of institutions use their teaching laboratories.

In all four types of institutions the per cent of utilization of rooms and student stations is lower in the case of laboratories than it is for classrooms. This is to be expected since laboratories are of a special use nature and generally can be used by only one type of class. However, it can be seen from comparing Figure D and Figure E that when consideration is given to student-station usage only when rooms are in use, utilization percentages for laboratories are higher than for classrooms.

As shown in Figure E, the state universities have the highest percentages in all three measures of utilization. The private institutions show the second highest student-station utilization but the lowest room utilization. The state four-year institutions show the lowest student-station utilization but the state two-year institutions show the lowest student-station utilization considering only the hours that rooms are used.

Table 20 makes an institution-by-institution comparison of the degree of utilization of teaching laboratories. From the fifth column of Table 20 it can be seen that the range in percentages of utilization of rooms is from a low of 14.3 at LU to a high of 48.1 at Cameron. Converted to hours of room usage, this would mean that LU used its laboratories an average of 6.3 hours a week in the fall semester of 1963 while Cameron used its laboratories an average of 21.1 hours a week during that semester.

Considering student-station utilization (next to last column of Table 20), LU again shows the lowest percentage of 6.7 and OSU shows the highest of 34.6. The average for all 21 institutions was 23.6 per cent.

Student-station utilization percentages rise considerably when one considers just the hours when rooms are used. The last column of Table 20 shows that for this measure, the average for all institutions was 72.6 per cent as compared with the 23.6 per cent mentioned in the preceding paragraph. The range is from a low of 37.5 per cent at OCW to a high of 85.5 per cent at Tulsa.

Comparison of Utilization Data with Institutions in Other States

So that the classroom and laboratory utilization data will have more meaning, Tables 21 and 22 are presented which make comparisons of Oklahoma institutions with similar institutions in other states. The normative data are from the book by

Table 19—Summary of General Classroom Utilization by 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	No. of Rooms	Total Available Room-Periods[a]	Room-Period Use for Week			No. of Student Stations[b]	Total Available Student-Station-Periods[a]	Student-Station-Period Use for Week			
			Total Room-Periods Used	Average Room-Period Use	Per Cent of Utilization[a]			Total Student-Station-Periods Occupied	Avg. Student-Station-Periods per Station	Per Cent of Utilization[a]	Per Cent of Station Use When Rooms in Use[a]
State Universities:											
OU	202	8,888	4,967	24.6	55.9	8,811	387.684	160,228	18.2	41.3	73.9
OSU	157	6,908	4,285	27.3	62.0	8,858	389,752	142,236	16.1	36.5	58.8
Both Universities	359	15,796	9,252	25.8	58.6	17,669	777,436	302,464	17.1	38.9	66.4
State 4-Year Colleges:											
CSC	88	3,872	1,729.5	19.7	44.7	4,251	187,044	51,494	12.1	27.5	61.5
ECSC	49	2,156	722	14.7	33.5	2,672	117,568	23,951	9.0	20.4	61.0
NESC	52	2,288	1,020	19.6	44.6	3,150	138,600	36,858	11.7	26.6	59.7
NWSC	46	2,024	613.5	13.3	30.3	2,101	92,444	14.492	6.9	15.7	51.9
SESC	54	2,376	688.5	12.8	29.0	2,616	115,104	17,730	6.8	15.4	52.9
SWSC	51	2.244	1,055	20.7	47.0	2,394	105,336	34,233	14.3	32.5	69.1
OCW	41	1,804	457	11.1	25.3	1,679	73,876	7,497	4.5	10.1	40.2
PAMC	36	1,584	411	11.4	25.9	1,551	68,244	9,522	6.1	14.0	53.9
LU	25	1,100	278	11.1	25.3	1,103	48,532	6,614	6.0	13.6	54.0
All 4-Year Colleges	442	19,448	6,974.5	15.8	35.9	21,517	946.748	202,391	9.4	21.4	59.5
State 2-Year Colleges:											
Cameron	21	924	466	22.2	50.4	884	38,896	12,902	14.6	33.2	65.7
Connors	25	1,100	291	11.6	26.5	1,027	45,188	4,949	4.8	11.0	41.5
Eastern	26	1,144	332	12.8	29.0	1,219	53,636	8,942	7.3	16.7	57.3
Murray	13	572	224	17.2	39.2	690	30,360	5,283	7.7	17.4	44.5
NEOAMC	25	1,100	582	23.3	52.9	1,260	55,440	16,583	13.2	29.9	56.5
NOJC	21	924	224	10.7	24.2	994	43,736	5,958	6.0	13.6	56.0
OMA	29	1,276	561	19.3	44.0	1,164	51,216	9.695	8.3	18.9	43.2
All 2-Year Colleges	160	7,040	2,680	16.8	38.1	7,238	318,472	64,312	8.9	20.2	52.9
All State Institutions	961	42,284	18,906.5	19.7	44.7	46,424	2,042,656	569,167	12.3	27.9	62.2
Private Institutions:											
Tulsa	66	2,904	1,336	20.2	46.0	3,843	169,092	48,746	12.7	28.8	62.8
OCC	11	484	259.5	23.6	53.6	436	19,184	5,541	12.7	28.9	53.9
St Greg	15	660	306	20.4	46.4	546	24,024	6,446	11.8	26.8	57.9
Three Private Institutions	92	4,048	1,901.5	20.7	47.0	4,825	212,300	60.733	12.6	28.6	60.8
All Institutions	1,053	46,332	20,808	19.8	44.9	51,249	2.254,956	629,900	12.3	27.9	62.1

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[a] Based on a 44-hour week.

[b] Optimum stations as determined by visitation.

Russell and Doi, Manual for Studies of Space Utilization in Colleges and Universities.[10] The comparative data are for the fall semester of 1953. Table 21, it will be noted, presents information for senior colleges and universities; whereas, Table 22 presents information for junior colleges.

For purposes of comparison, institutions were divided into three categories according to size—those producing 16,000 or fewer student-credit-hours during an academic year, those producing from 16,001 to 48,000, and those producing more than 48,000. Equated to full-time-equivalent student enrollments, the first category would be 533 students or fewer, the second category would be 534 to 1,600 students, and the third category would be 1,601 students and over.

From the top section of Table 21 it can be seen that there was only one senior college in Oklahoma participating in this study that produced 16,000 or fewer student-credit-hours. That institution was OCC. OCC is compared in Table 21 with 15 institutions in other states. In two of the three measures of utilization, data were available from 15 institutions but in the third, data were available from only 14.

In terms of the average number of periods per week that classrooms were used, OCC shows a usage of 23.6 which is higher than for any institution outside Oklahoma. The highest for institutions outside Oklahoma was 22 periods per week. OCC

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[10] Russell and Doi, *Op. Cit.*

Figure E—Comparison of the Per Cent of Utilization of Teaching Laboratories in 21 Oklahoma Colleges and Universities by Type of Institution, Fall, 1963

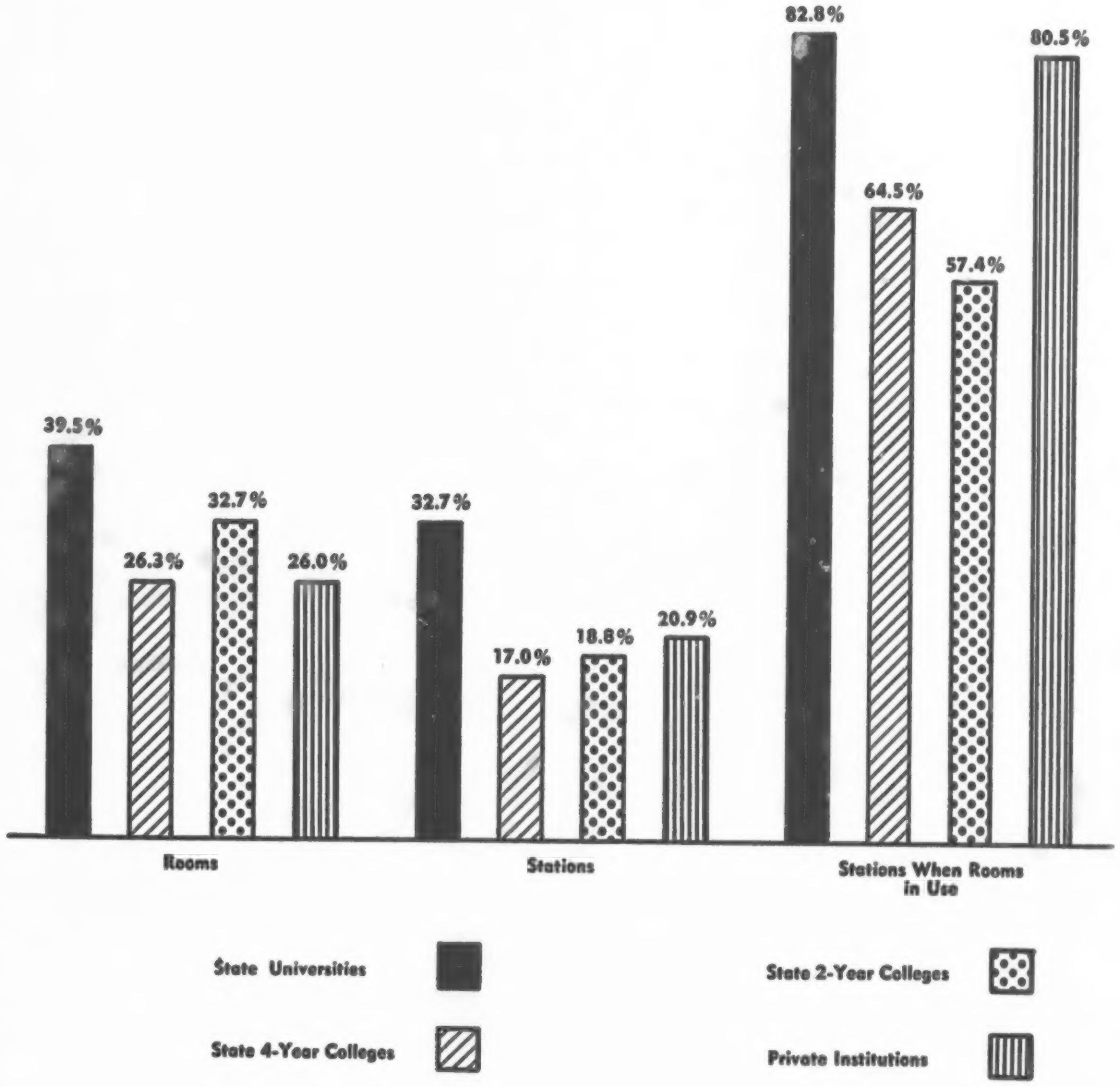

Table 20—Summary of Teaching Laboratory Utilization by 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	No. of Rooms	Total Available Room-Periods[a]	Room-Period Use for Week			No. of Student Stations[b]	Total Available Student-Station-Periods[a]	Student-Station-Period Use for Week			
			Total Room-Periods Used	Average Room-Period Use	Per Cent of Utilization[a]			Total Student-Station-Periods Occupied	Avg. Student-Station-Periods per Station	Per Cent of Utilization[a]	Per Cent of Station Use When Rooms in Use[a]
State Universities:											
OU	145	6,380	2,413	16.6	37.8	3,522	154,968	47,871	13.6	30.9	81.9
OSU	138	6,072	2,503	18.1	41.2	3,518	154,792	53,541	15.2	34.6	84.1
Both Universities	283	12,452	4,916	17.4	39.5	7.040	309,760	101,412	14.4	32.7	82.8
State 4-Year Colleges:											
CSC	32	1,408	556	17.4	39.5	839	36,916	12,389	14.8	33.6	84.9
ECSC	32	1,408	447.5	14.0	31.8	724	31,856	5.932	8.2	18.6	58.5
NESC	34	1,496	412	12.1	27.5	1,272	55,968	9,452	7.4	16.9	61.4
NWSC	29	1,276	269.5	9.3	21.1	642	28,248	3,251.5	5.1	11.5	54.5
SESC	20	880	174.5	8.7	19.8	453	19,932	2,830	6.2	14.2	71.8
SWSC	38	1,672	542.5	14.3	32.4	1,116	49,104	10,404	9.3	21.2	65.2
OCW	29	1,276	311	10.7	24.4	575	25,300	2,307	4.0	9.1	37.5
PAMC	29	1,276	221	7.6	17.3	657	28,908	3,276	5.0	11.3	65.6
LU	23	1,012	145	6.3	14.3	614	27,016	1,803	2.9	6.7	46.6
All 4-Year Colleges	266	11,704	3,079	11.6	26.3	6,892	303,248	51,644.5	7.5	17.0	64.5
State 2-Year Colleges:											
Cameron	21	924	444	21.1	48.1	547	24,068	7,796	14.3	32.4	67.5
Connors	9	396	96	10.7	24.2	203	8,932	1,179	5.8	13.2	54.3
Eastern	21	924	211	10.0	22.8	699	30,756	3,397	4.9	11.0	48.6
Murray	12	528	104	8.7	19.7	299	13,156	1,421	4.8	10.8	54.6
NEOAMC	20	880	306	15.3	34.8	572	25,168	5,003	8.7	19.9	57.2
NOJC	17	748	222	13.1	29.7	440	19,360	2,643	6.0	13.7	45.9
OMA	12	528	227	18.9	43.0	337	14,828	4,160	12.3	28.1	65.3
All 2-Year Colleges	112	4,928	1,610	14.4	32.7	3.097	136.268	25,599	8.3	18.8	57.4
All State Institutions	661	29,084	9,605	14.5	33.0	17,029	749,276	178,655.5	10.5	23.8	72.3
Private Institutions:											
Tulsa	45	1,980	484	10.8	24.4	1,145	50,380	10,572	9.2	21.0	85.5
OCC	4	176	73.5	18.4	41.8	115	5,060	1,007	8.8	19.9	47.6
St Greg	7	308	83	11.9	26.9	148	6,512	1,348	9.1	20.7	76.5
Three Private Institutions	56	2,464	640.5	11.4	26.0	1,408	61,952	12,927	9.2	20.9	80.5
All Institutions	717	31,548	10,245.5	14.3	32.5	18,437	811,228	191,582.5	10.4	23.6	72.6

[a] Based on a 44-hour week.
[b] Optimum stations as determined by visitation.

Table 21—Room-Period Utilization Scores, Student-Station Utilization Scores, and Scores for "Percentage of Student-Stations Used When Rooms are Actually in Use" in 13 Oklahoma Senior Colleges and Universities as Compared with Comparable Institutions in Other States[a]

Student-Credit-Hours Produced During Academic Year	Institution	Avg. No. of Periods per Week per Room (N=41)		Avg. No. of Student Hours per Week per Station (N=38)		Percentage of Student Stations Used When Rooms in Use (N=41)	
		Classrooms	Laboratories	Classrooms	Laboratories	Classrooms	Laboratories
	Institutions Outside Oklahoma:						
16,000 or Fewer (N=15 Except in 3rd and 4th Columns Where N=14)	Highest	22.0	21.0	10.0	17.0	72.0	90.0
	Third Quartile	19.8	14.0	8.9	8.0	51.5	62.0
	Median	15.8	10.0	7.8	5.5	42.0	54.0
	First Quartile	10.4	7.3	5.0	4.0	36.5	48.5
	Lowest	7.0	5.0	3.0	3.0	28.0	43.0
	Oklahoma Institutions:						
	OCC	23.6	18.4	12.7	8.8	53.9	47.6
	Institutions Outside Oklahoma:						
16,000 to 48,000 (N=14 Except in 3rd and 4th Columns Where N=12)	Highest	38.0	18.0	18.0	14.0	60.0	70.0
	Third Quartile	22.0	16.0	11.0	10.5	53.0	61.0
	Median	19.0	12.5	9.5	8.0	47.0	54.5
	First Quartile	15.8	9.0	7.0	5.5	42.0	49.0
	Lowest	12.0	7.0	6.0	4.0	29.0	41.0
	Oklahoma Institutions:						
	OCW	11.1	10.7	4.5	4.0	40.2	37.5
	PAMC	11.4	7.6	6.1	5.0	53.9	65.6
	LU	11.1	6.3	6.0	2.9	54.0	46.6
	NWSC	13.3	9.3	6.9	5.1	51.9	54.5
	SESC	12.8	8.7	6.8	6.2	52.9	71.8
	Institutions Outside Oklahoma:						
More than 48,000 (N=12)	Highest	38.0	32.0	24.0	21.0	67.0	81.0
	Third Quartile	29.0	21.5	17.5	16.5	61.0	72.5
	Median	25.0	19.5	15.0	14.5	52.5	68.0
	First Quartile	23.0	15.5	12.0	11.5	47.0	62.5
	Lowest	20.0	11.0	9.0	9.0	43.0	58.0
	Oklahoma Institutions:						
	OU	24.6	16.6	18.2	13.6	73.9	81.9
	OSU	27.3	18.1	16.1	15.2	58.8	84.1
	CSC	19.7	17.4	12.1	14.8	61.5	84.9
	ECSC	14.7	14.0	9.0	8.2	61.0	58.5
	NESC	19.6	12.1	11.7	7.4	59.7	61.4
	SWSC	20.7	14.3	14.3	9.3	69.1	65.2
	Tulsa	20.2	10.8	12.7	9.2	62.8	85.5

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[a] Normative data are for the fall semester of the 1953-54 academic year and are from Russell and Doi, *Op. Cit.*, pp. 103, 105, and 107.

Table 22—Room-Period Utilization Scores, Student-Station Utilization Scores, and Scores for "Percentage of Student-Stations Used When Rooms Are Actually in Use" in Eight Oklahoma Junior Colleges as Compared with Comparable Institutions in Other States [a]

Student-Credit-Hours Produced During Academic Year	Institution	Avg. No. of Periods per Week per Room (N=22)		Avg. No. Student Hours per Week per Station (N=22)		Percentage of Student-Stations Used When Rooms in Use (N=22)	
		Classrooms	Laboratories	Classrooms	Laboratories	Classrooms	Laboratories
16,000 or Fewer (N=7)	**Institutions Outside Oklahoma:**						
	Highest	31.0	22.0	14.0	16.0	62.0	81.0
	Median	22.0	19.0	11.0	10.0	52.0	60.0
	Lowest	17.0	14.0	8.0	6.0	42.0	39.0
	Oklahoma Institutions:						
	Connors	11.6	10.7	4.8	5.8	41.5	54.3
	Murray	17.2	8.7	7.7	4.8	44.5	54.6
	St Greg	20.4	11.9	11.8	9.1	57.9	76.5
16,001 to 48,000 (N=15)	**Institutions Outside Oklahoma:**						
	Highest	42.0	31.0	25.0	21.0	74.0	86.0
	Median	20.0	20.0	12.0	13.3	61.3	66.3
	Lowest	17.0	15.0	9.0	8.0	45.0	55.0
	Oklahoma Institutions:						
	Cameron	22.2	21.1	14.6	14.3	65.7	67.5
	Eastern	12.8	10.0	7.3	4.9	57.3	48.6
	NEOAMC	23.3	15.3	13.2	8.7	56.5	57.2
	NOJC	10.7	13.1	6.0	6.0	56.0	45.9
	OMA	19.3	18.9	8.3	12.3	43.2	65.3

[a] Normative data are for the fall semester of the 1953-54 academic year and are from Russell and Doi, *Op. Cit*, pp. 108, 109, and 110.

did not compare quite so well with respect to laboratory usage but it did have a high enough usage to place it at a point that was equivalent to the top quartile of institutions outside Oklahoma.

In the comparison of the average number of student hours per week per station in classrooms, OCC again showed a higher usage than did any institution outside Oklahoma. In laboratories, the 8.8 periods per week average at OCC was sufficient to put it at the top quartile level.

OCC did not compare so well with respect to the percentage of student stations used when rooms were in use. The 53.9 per cent figure placed OCC at the top quartile for classroom usage but the 47.6 per cent for laboratories placed OCC at the bottom quartile level.

In the center section of Table 21 comparisons are made of utilization scores of institutions producing from 16,001 to 48,000 student-credit-hours. Oklahoma institutions in this category are OCW, PAMC, LU, NWSC, and SESC. They are compared with 14 institutions outside Oklahoma in two of the three measurements and 12 in the other.

Oklahoma institutions in the 16,001 to 48,000 category generally do not compare well with institutions outside Oklahoma. From the first column it can be seen that in terms of the average number of periods per week that classrooms are used, three of Oklahoma's institutions show a lower usage than any of the institutions outside Oklahoma and the other two Oklahoma institutions show scores that are comparable to the scores of institutions outside Oklahoma in the bottom quartile. Oklahoma institutions compare a little better with respect to laboratory utilization, with only one institution showing a score lower than the lowest of institutions outside Oklahoma. Two Oklahoma institutions show scores equivalent to the bottom quartile and two show scores equivalent to the second quartile.

Considering student-station utilization, one Oklahoma institution in the 16,001-48,000 SCH category shows a lower classroom usage than that of any institution outside Oklahoma and one Oklahoma institution shows a usage equivalent to the lowest of non-Oklahoma institutions. The other three Oklahoma institutions show scores that are comparable to the non-Oklahoma institutions in the bottom quartile. With regard to student-station utilization in laboratories, one Oklahoma institution had a score lower than that of any institution outside Oklahoma, one Oklahoma institution had a score the same as the lowest score of institutions in other states, two Oklahoma institutions had scores comparable to the scores of non-Oklahoma institutions in the bottom quartile, and one Oklahoma institution had a score that was comparable to scores in the second quartile.

The Oklahoma institutions in the 16,001 to 48,000 SCH category compared much better with respect to the percentage of student-stations used in classrooms when the rooms were in use. One institution's score was equivalent to the bottom quartile but two were equivalent to the third quartile and two were equivalent to the top quartile. Considering the use of student-stations in laboratories when rooms were in use, Oklahoma institutions compared fairly well, with one institution showing a score higher than the score of any non-Oklahoma institution. One institution had a score equivalent to the top quartile, another had a score the same as the median score, another had a score equivalent to the bottom quartile, and one had a score lower than any for institutions outside Oklahoma.

The bottom section of Table 21 makes comparisons of utilization scores of institutions with more than 48,000 SCH's of production. Seven Oklahoma institutions are in this category—OU, OSU, CSC, ECSC, NESC, SWSC, and Tulsa. There were 12 non-Oklahoma institutions included in the normative data.

The room-period utilization data for classrooms show that one of the seven Oklahoma institutions had a score equivalent to the third quartile, one had a score equivalent to the second quartile, two had scores equivalent to the bottom quartile, and three had scores lower than that of any of the non-Oklahoma institutions. Three of Oklahoma's institutions show laboratory utilization scores equivalent to the second quartile, three show scores equivalent to the bottom quartile, and one institution shows a score lower than that of any non-Oklahoma institution.

The classroom student-station utilization data show that one Oklahoma institution in the "over 48,000" SCH category had a utilization figure equivalent to the top quartile, one had a score equivalent to the third quartile, three had scores equivalent to the second quartile, and the other two were equivalent to the bottom quartile. For laboratories, two institutions were equivalent to the third quartile, one was equivalent to the second quartile, two were equivalent to the bottom quartile, and two showed scores lower than that of any non-Oklahoma institution.

Considering student-station utilization when rooms are in use, Oklahoma institutions show up well. For classrooms, two Oklahoma institutions in the "over 48,000" SCH category had scores higher than that of any institution outside Oklahoma, three had scores equivalent to the top quartile, and the other two had scores equivalent to the third quartile. For laboratories, four Oklahoma institutions had scores higher than any non-Oklahoma institution, one had a score equivalent to the second quartile, and two had scores equivalent to the bottom quartile.

Turning now to Table 22 which makes comparisons of junior colleges, one can see that there are three Oklahoma institutions (Connors, Murray, and St. Gregory's) in the "16,000 or Fewer" SCH category. Those three institutions are compared with seven institutions from outside Oklahoma.

One of the three Oklahoma institutions in this category shows a room-period utilization score for classrooms lower than that of any institution outside Oklahoma. The other two Oklahoma institutions have scores equivalent to the lower half of non-Oklahoma institutions. Room-period utilization scores for laboratories for all three Oklahoma institutions are lower than the lowest of non-Oklahoma institutions.

The classroom student-station utilization score of one Oklahoma institution was sufficient to place it in a position comparable to the upper half of institutions outside Oklahoma while the other two Oklahoma institutions had scores lower than the lowest of non-Oklahoma institutions. The laboratory student-station utilization score of one Oklahoma institution was equivalent to the lower half of institutions outside Oklahoma and the other two Oklahoma institutions had scores lower than any of the non-Oklahoma institutions.

Considering the percentage of classroom student-stations used when rooms were in use, one Oklahoma institution scored in the upper half, one in the lower half, and one lower than any of the institutions outside Oklahoma. Laboratory student-station utilization of this type for Oklahoma institutions was a bit higher, with one Oklahoma institution scoring at a point equivalent to the upper half and the other two Oklahoma institutions scoring at the lower half level for non-Oklahoma institutions.

In the "16,001 to 48,000" SCH category there are 5 Oklahoma institutions and 15 non-Oklahoma institutions. The Oklahoma institutions are Cameron, Eastern, NEOAMC, NOJC, and OMA. The first column of Table 22 shows that two Oklahoma institutions had scores for classroom utilization equivalent to the upper half of institutions outside Oklahoma, one had a score equivalent to the bottom half, but two had scores lower than that of any non-Oklahoma institution. The second column shows that one Oklahoma institution ranked in the upper half, two ranked in the lower half, and two had scores lower than that of any institution outside Oklahoma.

The comparative student-station utilization data show that two Oklahoma institutions used their classroom stations enough to place them in a position equivalent to the upper half of non-Oklahoma institutions and the other three institutions had scores lower than that of any institution outside Oklahoma. Laboratory student-station utilization data show that only one Oklahoma institution in this category ranked at a position equivalent to the upper half of institutions outside Oklahoma. Two ranked in the lower half and two had scores that were lower than any for non-Oklahoma institutions.

Only one Oklahoma institution in the "16,001 to 48,000" SCH category had a score for classroom student-station utilization when rooms were in use that was equivalent to the upper half of scores of non-Oklahoma institutions, while three had scores equivalent to the lower half, and one had a score that was lower than those for all institutions outside Oklahoma. For laboratory utilization, one institution had a score high enough to place it in the upper half, two had scores equivalent to the lower half, and two had scores lower than that of any non-Oklahoma institution.

From an examination of these comparative data, one must conclude that generally Oklahoma's institutions do not compare well with respect to utilization of classrooms and laboratories when compared with institutions outside Oklahoma. As Oklahoma institutions grow in enrollment, it is imperative that they proceed with extreme caution in building new instructional space. It will be necessary for them to look for ways to utilize better the classrooms and laboratories that are already available. In doing that, they should take note of how better utilization might be made of the various buildings, how a better scheduling of classes might be made by day of the week and by hour of the day, and the like. To provide some insight into the problem of better scheduling, the following section presents some data with regard to utilization of classrooms and labs by building, by hour of the day, by day of the week, by size of the room, and by assignment of the room.

Detailed Analysis of Space Utilization

In the preceding section an analysis was made of overall space utilization in the various institutions participating in this study. In this section a more detailed analysis will be made of utilization so that institutions will have information available that they need in order to effect a better utilization of their physical plant resources.

Utilization by Day of the Week.—Higher education institutions typically vary significantly with respect to the usage they make of classrooms and laboratories by day of the week. Generally, greater use is made of instructional space on Mondays, Wednesdays, and Fridays than on Tuesdays, Thursdays, and Saturdays. This results from the fact that there are a great many more three-hour classes than there are classes of other credit value and it is more convenient to schedule the three-hour classes on Mondays, Wednesdays, and Fridays. The resistance to Saturday classes on the part of both students and faculty has generally limited scheduling of three-hour classes on Tuesdays, Thursdays, and Saturdays.

In some institutions three-hour classes have occasionally been scheduled for two hours one day a week and one hour on another day. In that way, the three-hour block of time can be allotted to two days rather than three, thereby permitting a greater usage of space on Tuesdays and Thursdays.

Tables 23 and 24 show the extent of utilization of space by day of the week. Table 23 presents data for general classrooms and Table 24 presents data for teaching laboratories. Table 23 shows that institutions in Oklahoma generally utilize their classrooms more on Mondays, Wednesdays, and Fridays than they do other days of the week. However, the usage is usually less on Fridays than on Mondays and Wednesdays and, in some cases, it is less for Fridays than it is for Tuesdays and Thursdays. Very little use is made of classrooms on Saturdays, with only six institutions reporting any use at all on that day.

From Table 24 there seems to be no consistent pattern among institutions with respect to usage of laboratories by day of week except on Saturday. Again, only six of the institutions show any use of space on that day.

Utilization by Hour of the Day.—Tables 25 and 26 show the extent of utilization of classrooms and labs by hour of the day. Table 25 makes an analysis of classroom utilization and Table 26 makes an analysis of laboratory utilization.

An examination of Table 25 will reveal that institutions generally schedule their classes from 8 through 12 in the morning and in the early afternoon hours. They make very little use of classrooms prior to 8 a.m., during the noon hour, or in the late afternoon and evening hours.

Institutions in Oklahoma, as revealed by Table 26, make greater use of laboratories than they do

Table 23—Utilization of General Classrooms by Day of the Week by 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	Per Cent of Room-Period Use [a]						Per Cent of Student-Station-Period Use [b]					
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
State Universities:												
OU	68.8	52.6	69.4	52.6	59.1	9.2	53.4	34.9	53.8	35.8	46.0	6.8
OSU	73.4	62.9	72.6	65.0	61.4	11.8	45.9	33.9	44.6	35.1	39.3	4.0
State 4-Year Colleges:												
CSC	66.3	49.9	38.5	52.1	38.8	----	40.8	30.7	23.8	32.3	23.8	----
ECSC	44.8	27.7	47.1	27.2	37.0	1.0	27.9	16.3	27.7	16.0	24.1	0.2
NESC	53.4	48.3	47.4	47.6	48.6	----	32.1	28.4	28.9	27.5	29.4	----
NWSC	37.2	31.5	32.2	34.4	28.7	5.4	19.0	16.5	16.3	18.4	15.4	1.4
SESC	44.6	24.0	36.5	22.3	31.0	2.1	22.7	12.7	19.6	11.7	17.3	1.5
SWSC	62.6	56.0	38.8	54.3	46.7	0.2	40.7	39.7	27.1	37.9	33.2	----
OCW	34.1	21.6	29.6	21.6	31.1	2.4	14.9	7.1	13.4	6.8	13.4	0.1
PAMC	34.4	20.5	34.4	22.6	30.9	----	18.6	11.6	17.6	11.3	17.6	----
LU	36.5	22.5	26.5	22.5	31.0	----	19.5	11.4	14.9	11.7	17.5	----
State 2-Year Colleges:												
Cameron	82.7	34.5	47.6	67.3	45.2	----	51.1	24.6	32.7	40.8	33.2	----
Connors	36.0	22.0	35.0	21.5	31.0	----	17.3	5.3	16.9	5.6	15.2	----
Eastern	37.0	26.4	35.1	32.7	28.4	----	22.5	13.9	22.4	15.1	17.8	----
Murray	47.1	40.4	45.2	40.4	42.3	----	20.6	18.6	20.2	18.7	17.5	----
NEOAMC	69.0	56.0	68.5	39.5	58.0	----	41.5	27.7	40.1	19.6	35.6	----
NOJC	29.8	25.6	25.0	21.4	31.5	----	16.1	12.6	14.4	12.7	19.0	----
OMA	59.9	38.4	53.9	39.2	50.0	----	25.6	16.8	24.1	15.5	22.1	----
Private Institutions:												
Tulsa	57.9	50.2	59.3	44.6	38.6	4.9	37.5	30.2	37.5	26.0	26.7	1.3
OCC	53.4	58.5	52.8	64.8	65.3	----	31.0	32.6	30.0	31.7	33.5	----
St Greg	53.3	47.5	52.5	45.8	55.8	----	31.5	27.8	30.3	25.7	32.3	----

[a] Based on a 44-hour week.
[b] Based on optimum stations.

classrooms in the afternoons. However, labs are not used a significant amount of time prior to 8 a.m., during the noon hour, or in the evening hours.

Generally, the institutions that can make greater use of their space in the evenings are those that are located in the urban areas. In those areas, a great many people who work full-time during the day desire to attend evening classes. This factor is reflected in the higher utilization figures for Cameron and Tulsa during the evening hours.

Utilization by Capacity of Room.—In order to determine whether or not there is a tendency among Oklahoma institutions to use some sizes of classrooms and laboratories more than others, an analysis was made by capacity of the room. Tables 27 and 28 show the results of this analysis. Table 27 presents information about classrooms and Table 28 presents information about laboratories.

There does not seem to be any tendency for institutions included in this study to use one size of classroom or lab more than another. It is clear, however, that individual institutions vary considerably in the use that they make of different sizes of classrooms and labs. The data suggest that in the future institutions will need to do a better job of matching classes and rooms if they are to be able to handle more students.

In matching a particular size of class with a particular size of room, an institution could perhaps use to advantage a tool that is illustrated by Tables 29 and 30. These two tables present information that show the extent to which classes were matched with rooms in Oklahoma institutions during the fall semester of 1963. Table 29 presents information about classrooms and Table 30 presents information about laboratories.

Table 24—Utilization of Teaching Laboratories by Day of the Week by 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	Per Cent of Room-Period Use [a]						Per Cent of Student-Station-Period Use [b]					
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
State Universities:												
OU	43.5	45.1	45.0	44.4	28.5	2.9	37.8	36.7	37.0	37.1	20.2	2.2
OSU	47.7	44.3	46.5	47.8	35.7	9.4	39.7	39.0	38.6	40.0	29.4	7.1
State 4-Year Colleges:												
CSC	49.2	44.1	43.8	53.5	26.6	----	42.9	38.6	37.7	43.4	22.0	----
ECSC	34.0	37.9	35.4	37.1	30.5	----	17.8	25.0	19.0	25.4	15.2	----
NESC	32.7	32.7	30.1	32.4	23.5	----	19.7	21.3	16.8	21.8	13.2	----
NWSC	25.9	26.1	23.3	21.6	18.5	1.7	14.2	14.5	12.7	11.6	9.5	1.6
SESC	25.9	17.5	23.1	23.1	15.0	8.8	20.5	12.3	15.7	15.7	12.4	2.8
SWSC	32.2	42.6	35.0	42.1	26.5	----	19.6	27.6	26.0	27.4	16.0	----
OCW	27.2	28.9	28.4	27.2	21.6	2.0	8.6	12.2	9.2	12.7	7.1	0.1
PAMC	23.7	24.1	21.1	12.9	13.3	----	15.7	18.1	13.2	6.6	8.7	----
LU	17.4	18.5	11.4	16.8	14.7	----	8.6	8.5	5.2	7.8	6.7	----
State 2-Year Colleges:												
Cameron	66.7	36.9	56.5	70.8	33.3	----	43.2	25.8	40.4	44.7	23.9	----
Connors	20.8	34.7	29.2	33.3	15.3	----	11.9	18.3	14.5	18.0	10.0	----
Eastern	32.1	25.0	23.2	26.8	18.5	----	13.9	16.1	11.0	12.0	7.9	----
Murray	15.6	24.0	29.2	29.2	10.4	----	6.8	16.7	13.9	17.0	5.0	----
NEOAMC	33.8	48.8	35.6	50.0	23.1	----	20.4	26.8	21.1	27.2	13.8	----
NOJC	36.8	38.2	37.5	33.1	17.6	----	18.3	18.0	17.0	15.2	6.5	----
OMA	51.0	47.9	47.9	52.1	37.5	----	33.3	30.7	33.5	31.3	25.5	----
Private Institutions:												
Tulsa	26.3	28.2	26.0	31.1	17.1	11.7	24.1	22.6	23.4	25.2	14.8	10.6
OCC	50.0	43.8	50.0	42.2	43.8	----	21.8	22.3	25.8	21.0	18.6	----
St Greg	25.0	35.7	26.8	35.7	25.0	----	19.4	26.5	21.5	26.5	19.8	----

[a] Based on a 44-hour week.
[b] Based on optimum stations.

Table 25—Utilization of General Classrooms by Hour of the Day by 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	Per Cent of Room-Period Use[a]														
	7-8 A.M.	8-9	9-10	10-11	11-12	12-1 P.M.	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10
State Universities:															
OU	1.7	52.4	63.5	58.2	57.8	25.1	53.6	43.4	20.9	11.6	3.7	3.9	5.9	4.6	3.3
OSU	0.8	58.2	66.5	64.9	69.0	18.3	54.1	53.9	37.8	24.2	2.2	0.6	2.9	1.5	....
State 4-Year Colleges:															
CSC	30.5	56.6	57.6	59.1	41.5	17.4	20.1	7.0	1.3	0.4	9.1	6.9	9.5	7.7	2.9
ECSC	....	48.0	49.3	41.8	46.6	2.7	28.2	16.7	0.3	....	....	2.0	4.8	2.4	2.7
NESC	....	55.4	49.7	48.4	46.2	26.0	46.8	35.9	10.3	0.6	1.6	1.6	2.2	2.2	....
NWSC	0.4	35.5	46.4	37.3	33.9	0.7	37.7	17.4	3.3	....	1.4	1.6	3.6	2.7	0.4
SESC	0.9	40.9	42.6	31.8	38.3	1.9	24.7	7.1	3.1	2.5	0.9	2.3	5.6	5.2	4.8
SWSC	....	49.3	57.8	52.0	47.4	7.8	44.1	36.1	24.8	11.1	1.6	3.8	3.6	2.9	2.3
OCW	....	32.5	33.3	18.7	44.7	....	31.7	53.7	10.2	6.1	1.6	....	1.2	0.8	0.4
PAMC	3.2	35.6	34.7	31.9	33.0	....	24.5	14.8	5.6	4.6	1.9	....	....	....	....
LU	....	28.0	26.7	23.3	26.7	....	32.0	26.0	17.3	5.3	....	....	....	....	....
State 2-Year Colleges:															
Cameron	4.8	60.3	57.9	62.7	47.6	11.9	33.3	4.8	2.4	1.6	....	....	27.7	27.7	27.0
Connors	....	26.0	38.7	37.3	28.7	....	20.7	22.0	15.3	3.3	....	0.7	0.7	0.7	....
Eastern	....	41.0	31.4	42.3	46.8	4.5	28.2	6.4	5.1	1.3	....	....	3.2	1.3	1.3
Murray	....	55.1	67.9	53.8	61.5	....	29.5	6.4	7.7	5.1	....	....	....	....	....
NEOAMC	3.3	58.0	60.7	51.3	52.0	14.0	37.3	22.0	22.7	15.3	4.0	2.0	16.0	16.7	12.7
NOJC	....	29.3	31.0	25.4	27.8	11.9	30.2	7.9	6.3	....	....	....	3.2	2.4	2.4
OMA	....	56.9	49.4	51.7	48.9	1.1	50.0	51.1	....	....	6.3	2.3	4.6	....	....
Private Institutions:															
Tulsa	....	49.5	56.7	61.1	36.9	15.0	20.5	8.6	2.5	1.3	1.5	21.7	32.1	19.2	10.9
OCC	2.3	50.8	47.0	13.6	39.4	29.5	75.8	60.6	36.4	19.7	1.5	....	6.1	6.1	4.5
St Greg	....	52.2	62.2	40.0	47.8	53.3	38.9	36.7	8.9	....	....	....	....	....	....

Institution	Per Cent of Student-Station-Period Use[b]														
	7-8 A.M.	8-9	9-10	10-11	11-12	12-1 P.M.	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10
State Universities:															
OU	1.3	42.0	48.3	46.5	48.3	18.2	38.0	30.8	11.8	5.4	1.4	2.0	3.6	3.2	2.4
OSU	0.3	39.2	43.5	41.7	43.9	9.3	29.8	27.6	19.0	10.8	0.6	0.2	1.2	0.5	....
State 4-Year Colleges:															
CSC	19.1	37.5	37.1	37.5	24.2	8.2	10.9	4.3	0.1	0.4	5.6	4.5	5.9	4.8	1.7
ECSC	....	28.8	32.3	27.6	31.9	1.5	13.6	10.2	0.1	....	....	0.6	1.3	0.7	0.8
NESC	....	34.4	33.2	29.9	30.5	13.6	26.7	17.8	5.0	0.1	1.0	1.0	0.9	0.9	....
NWSC	0.1	23.8	23.6	20.3	16.8	0.1	19.0	5.7	2.1	....	0.3	0.7	1.4	1.1	0.1
SESC	0.7	23.3	24.7	20.3	21.3	1.0	9.8	2.9	1.3	0.7	0.3	0.7	2.1	2.0	1.8
SWSC	....	37.7	42.3	38.6	34.6	4.7	28.8	21.8	14.9	5.0	3.6	1.8	1.8	1.5	1.1
OCW	....	13.7	15.2	9.9	8.1	....	11.8	9.4	2.5	2.0	0.4	....	0.8	0.3	0.2
PAMC	2.3	20.6	21.5	16.8	23.5	....	9.2	5.5	1.1	0.4	1.5	....	....	....	....
LU	15.1	14.1	12.0	14.9	....	16.3	15.7	8.7	3.1	....	....	....	....	....	....
State 2-Year Colleges:															
Cameron	3.4	41.9	43.5	45.3	35.4	8.6	19.2	1.3	1.2	8.3	....	....	14.5	14.5	13.7
Connors	....	13.4	16.4	15.7	10.2	....	12.3	8.2	3.5	0.1	....	0.2	0.2	0.2	....
Eastern	....	24.1	23.2	24.5	24.9	2.3	18.1	1.6	1.2	0.6	....	....	0.9	0.4	0.4
Murray	....	28.1	27.5	30.0	27.7	....	10.1	2.1	1.4	0.7	....	....	....	....	....
NEOAMC	3.0	36.6	38.4	36.7	33.2	9.2	19.7	7.0	8.1	6.2	0.1	1.3	7.3	6.9	4.6
NOJC	....	14.6	16.4	17.7	20.2	4.8	15.5	4.0	3.4	....	....	....	1.3	0.9	0.9
OMA	....	24.0	23.7	22.2	20.3	0.9	22.9	22.0	....	....	1.2	0.5	....	1.0	....
Private Institutions:															
Tulsa	....	31.7	39.5	39.2	22.5	10.1	12.6	3.8	0.8	0.7	0.7	12.6	19.0	11.5	6.7
OCC	1.0	26.8	33.4	5.9	25.0	22.9	35.8	32.0	16.5	5.8	0.3	....	2.4	2.4	1.6
St Greg	....	31.3	33.1	21.7	25.6	36.6	21.9	23.3	3.3	....	....	....	....	....	....

[a] Based on a 44-hour week.
[b] Based on optimum stations.

Table 26—Utilization of Teaching Laboratories by Hour of the Day by 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	Per Cent of Room-Period Use[a]														
	7-8 A.M.	8-9	9-10	10-11	11-12	12-1 P.M.	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10
State Universities:															
OU	0.2	22.2	31.8	31.5	26.1	6.0	32.3	41.7	42.4	29.4	7.6	1.2	1.8	1.6	1.5
OSU	0.7	27.8	33.9	36.6	32.2	3.4	40.9	45.0	42.0	31.5	2.4	0.4	2.1	1.8	1.4
State 4-Year Colleges:															
CSC	26.6	38.5	33.3	33.3	31.8	20.3	32.8	22.4	12.5	6.3	8.3	8.3	7.8	7.3	----
ECSC	----	34.9	34.9	38.0	37.0	7.8	28.6	25.5	14.6	7.8	----	0.5	1.6	1.3	0.5
NESC	----	30.9	33.3	29.9	30.9	6.9	27.0	26.0	13.2	2.0	0.5	0.5	0.5	0.5	----
NWSC	----	17.2	19.0	27.0	19.5	----	21.3	26.4	14.9	4.0	----	1.1	1.7	1.7	0.9
SESC	----	16.7	22.5	21.7	23.3	----	20.0	17.5	10.0	8.3	0.4	1.7	1.7	0.8	0.8
SWSC	----	18.4	19.5	20.4	22.4	7.0	30.0	42.8	31.8	31.8	7.9	1.5	1.8	1.3	1.3
OCW	----	20.1	25.3	17.8	22.4	2.3	29.9	28.7	20.6	10.3	----	----	1.1	----	----
PAMC	0.6	16.1	15.5	9.8	9.8	----	4.5	22.4	23.0	20.1	2.9	----	1.1	0.6	0.6
LU	----	6.5	8.7	15.9	13.9	----	29.7	12.3	13.0	5.8	----	2.2	----	----	----
State 2-Year Colleges:															
Cameron	6.3	42.1	44.4	42.9	44.4	7.9	32.5	34.1	21.4	7.1	----	----	23.0	23.0	23.0
Connors	----	16.7	29.6	24.1	20.4	----	29.6	29.6	20.4	7.4	----	----	----	----	----
Eastern	----	10.3	23.8	14.3	11.1	----	12.7	26.2	25.4	22.2	0.8	3.2	6.3	6.3	4.8
Murray	----	6.9	19.4	16.7	16.7	----	11.1	23.6	27.8	22.2	----	----	----	----	----
NEOAMC	----	25.0	26.7	27.5	25.0	----	31.7	37.5	29.2	14.2	1.6	5.0	10.8	10.8	10.0
NOJC	2.9	27.5	25.5	16.7	33.5	10.8	29.4	32.4	27.5	12.7	1.0	2.0	2.0	2.0	2.0
OMA	6.9	52.8	48.6	50.0	45.8	6.9	44.4	40.3	6.9	----	11.1	----	1.4	----	----
Private Institutions:															
Tulsa	----	14.8	19.6	25.6	17.8	4.1	21.1	26.3	22.2	15.6	----	3.7	4.6	3.5	0.4
OCC	----	20.8	12.5	12.5	54.2	14.6	54.2	79.2	45.8	12.5	----	----	----	----	----
St Greg	----	57.1	35.7	38.1	33.3	16.7	----	7.1	4.8	----	----	4.8	----	----	----

Institution	Per Cent of Student-Station-Period Use[b]														
	7-8 A.M.	8-9	9-10	10-11	11-12	12-1 P.M.	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10
State Universities:															
OU	0.1	18.3	26.4	24.1	18.9	5.8	27.6	34.0	35.2	23.5	8.9	0.6	1.3	1.0	0.9
OSU	0.7	26.9	27.2	28.7	24.7	2.7	37.2	38.6	35.3	25.8	1.9	0.2	1.4	1.2	1.0
State 4-Year Colleges:															
CSC	23.9	41.0	33.7	31.7	25.5	16.5	24.3	15.1	7.1	3.3	6.6	7.2	5.3	5.0	----
ECSC	----	25.0	24.0	21.9	23.4	0.3	15.8	14.4	9.8	0.3	----	0.1	0.5	0.6	0.5
NESC	----	16.9	22.3	20.5	20.3	4.2	16.0	13.6	7.3	1.5	0.1	0.1	0.4	0.4	----
NWSC	----	13.2	10.1	12.9	7.3	----	12.8	18.0	7.3	0.8	----	0.4	0.6	0.6	0.3
SESC	----	13.9	18.6	16.4	21.5	----	10.3	9.0	6.0	4.3	0.1	0.9	1.2	0.9	0.9
SWSC	----	15.3	12.3	14.1	13.3	2.3	16.4	27.9	25.1	19.9	6.0	0.8	0.6	0.7	0.7
OCW	----	9.5	8.6	6.6	8.3	0.4	13.5	7.3	8.2	3.8	----	----	0.6	----	----
PAMC	0.6	10.3	9.3	6.6	3.1	----	1.4	17.1	16.7	15.5	1.0	----	0.8	0.4	0.4
LU	----	4.1	4.6	7.4	4.5	----	12.5	4.4	7.3	3.5	----	0.7	----	----	----
State 2-Year Colleges:															
Cameron	1.6	37.8	36.8	30.0	35.2	11.5	15.1	17.4	12.9	3.5	----	----	11.9	11.9	11.9
Connors	----	8.4	21.0	13.3	16.2	----	20.9	9.1	5.3	2.5	----	----	----	----	----
Eastern	----	4.3	9.3	8.7	3.4	----	7.6	13.6	13.3	11.3	----	1.5	2.9	2.9	2.2
Murray	----	9.2	5.8	5.7	10.6	----	6.2	13.3	14.9	13.4	----	----	----	----	----
NEOAMC	----	12.7	15.9	13.8	12.5	----	17.7	24.7	17.4	10.3	0.7	5.6	5.1	5.1	4.0
NOJC	0.1	11.6	10.9	4.0	9.9	4.9	15.7	16.9	13.3	8.2	0.2	1.2	1.1	1.1	1.1
OMA	22.7	51.4	25.8	27.3	19.1	11.7	22.8	17.0	5.4	----	1.6	----	0.8	----	----
Private Institutions:															
Tulsa	----	13.9	17.5	20.5	14.1	2.1	17.5	23.2	20.4	15.8	----	2.7	3.3	2.5	0.4
OCC	----	15.9	5.2	3.5	40.1	4.8	22.2	28.0	21.4	4.8	----	----	----	----	----
St Greg	----	35.5	22.5	26.6	35.9	22.5	----	6.5	1.1	----	----	1.1	----	----	----

[a] Based on a 44-hour week.
[b] Based on optimum stations.

Table 27—Utilization of General Classrooms by Capacity of Room by 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	Per Cent of Room-Period Use[a]								
	1-9	10-19	20-29	30-39	40-49	50-59	60-79	80-99	100 & Over
State Universities:									
OU	34.1	22.2	45.5	62.6	65.7	50.4	51.2	49.8	61.4
OSU	----	29.0	57.8	63.6	56.9	69.3	64.5	75.6	65.9
State 4-Year Colleges:									
CSC	----	58.0	37.1	38.4	44.7	47.8	53.9	29.5	34.1
ECSC	----	----	15.9	13.4	36.3	40.2	36.3	50.0	30.7
NESC	----	----	25.6	47.0	55.7	52.8	39.0	64.8	44.3
NWSC	23.3	15.9	29.8	35.0	28.5	33.5	27.3	34.5	20.5
SESC	----	----	20.0	28.5	36.8	30.8	25.6	----	----
SWSC	----	45.5	31.8	37.7	47.5	50.5	54.5	47.7	----
OCW	----	0.1	33.5	28.3	22.9	19.5	33.5	15.9	----
PAMC	----	----	26.9	20.8	28.7	28.4	----	33.3	38.6
LU	----	----	15.2	23.9	42.3	26.6	10.2	27.3	----
State 2-Year Colleges:									
Cameron	----	----	27.3	50.6	50.1	50.0	63.6	----	----
Connors	----	14.8	44.3	20.5	25.0	29.5	40.9	----	----
Eastern	----	----	17.4	34.1	33.0	25.0	32.1	----	50.0
Murray	----	----	----	40.9	41.6	31.8	37.9	31.8	----
NEOAMC	----	----	59.0	40.5	63.6	54.0	38.6	----	52.3
NOJC	----	----	8.5	15.9	19.0	38.2	30.3	----	50.0
OMA	----	----	45.5	48.0	42.2	42.0	34.1	----	----
Private Institutions:									
Tulsa	----	29.5	15.9	38.4	44.0	60.6	54.4	49.2	53.6
OCC	----	36.4	54.5	48.9	58.0	69.7	36.4	----	53.6
St Greg	----	27.3	34.1	45.7	51.1	----	63.6	----	----

Institution	Per Cent of Student-Station-Period Use[b]								
	1-9	10-19	20-29	30-39	40-49	50-59	60-79	80-99	100 & Over
State Universities:									
OU	48.0	19.8	38.4	48.0	47.7	37.6	26.9	34.7	39.2
OSU	----	25.3	45.1	43.8	36.1	40.7	33.0	38.9	30.7
State 4-Year Colleges:									
CSC	----	74.2	36.5	28.4	28.2	26.4	32.4	10.9	16.6
ECSC	----	----	7.1	9.3	19.5	21.7	22.9	29.9	19.9
NESC	----	----	15.2	32.5	45.4	37.6	20.5	26.3	22.8
NWSC	32.4	13.3	15.2	22.9	15.4	18.5	9.1	15.8	7.9
SESC	----	----	12.8	16.7	20.3	15.6	13.8	----	----
SWSC	----	31.0	26.5	21.7	31.2	36.4	36.0	22.6	----
OCW	----	0.8	7.4	13.1	11.6	8.5	8.6	1.7	----
PAMC	----	----	8.6	11.2	16.1	9.4	----	18.7	22.4
LU	----	----	10.6	12.3	24.8	12.4	4.5	10.9	----
State 2-Year Colleges:									
Cameron	----	----	33.3	33.8	33.7	28.9	31.6	----	----
Connors	----	7.1	5.7	9.3	9.4	12.9	17.2	----	----
Eastern	----	----	11.9	11.0	17.6	12.7	18.8	----	23.9
Murray	----	----	----	17.5	22.2	17.2	14.5	7.0	----
NEOAMC	----	----	17.1	21.3	30.4	37.4	21.8	----	23.9
NOJC	----	----	5.8	50.8	9.7	18.8	15.5	----	21.8
OMA	----	----	27.0	24.5	16.4	15.4	11.2	----	----
Private Institutions:									
Tulsa	----	31.3	12.3	25.6	26.9	30.8	33.2	17.0	31.2
OCC	----	39.9	26.8	24.1	41.8	33.0	15.4	----	28.9
St Greg	----	16.5	23.5	27.7	26.2	----	28.4	----	----

[a] Based on a 44-hour week.
[b] Based on optimum stations.

Table 28—Utilization of Teaching Laboratories by Capacity of Room by 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	Per Cent of Room-Period Use[a]								
	1-9	10-19	20-29	30-39	40-49	50-59	60-79	80-99	100 & Over
State Universities:									
OU	67.5	27.2	32.8	48.4	29.2	71.7	18.2	54.7	46.2
OSU	36.5	29.4	42.1	45.0	58.7	----	61.7	77.3	40.9
State 4-Year Colleges:									
CSC	16.5	26.5	42.7	56.5	40.9	20.5	77.3	----	----
ECSC	64.1	18.4	32.2	26.0	38.6	54.5	18.2	----	----
NESC	----	20.9	17.4	40.9	26.6	24.2	25.0	----	----
NWSC	2.3	19.5	32.6	4.5	22.7	----	----	----	----
SESC	----	10.7	21.2	32.4	----	----	----	----	----
SWSC	6.1	37.5	21.8	40.2	52.3	----	46.2	----	----
OCW	26.5	19.3	23.9	36.4	13.6	----	----	----	----
PAMC	7.6	15.5	15.3	25.4	30.7	----	4.5	----	----
LU	33.0	9.5	7.6	15.9	----	----	----	----	50.0
State 2-Year Colleges:									
Cameron	----	32.7	40.7	62.9	55.7	77.3	----	----	----
Connors	----	21.8	13.6	25.0	45.5	----	----	----	----
Eastern	----	13.6	18.8	20.7	25.0	59.1	----	----	52.3
Murray	----	17.0	19.1	19.3	----	34.1	----	----	----
NEOAMC	----	26.5	33.0	37.9	60.2	47.7	----	----	56.8
NOJC	50.0	20.5	25.8	29.1	31.8	----	----	18.2	----
OMA	----	27.3	31.8	62.1	52.3	----	72.7	----	----
Private Institutions:									
Tulsa	11.9	17.3	19.9	34.1	38.2	20.5	13.6	----	----
OCC	----	20.5	33.0	56.8	----	----	----	----	----
St Greg	----	11.4	29.5	----	----	----	----	----	----

Institution	Per Cent of Student-Station-Period Use[b]								
	1-9	10-19	20-29	30-39	40-49	50-59	60-79	80-99	100 & Over
State Universities:									
OU	50.5	28.0	28.9	39.8	20.4	25.7	75.0	30.1	32.8
OSU	34.5	29.8	35.4	33.1	36.9	----	46.7	47.0	8.6
State 4-Year Colleges:									
CSC	26.3	20.5	30.4	48.8	24.2	12.9	41.1	----	----
ECSC	80.8	19.3	25.9	16.3	22.4	14.2	8.9	----	----
NESC	----	21.9	18.6	24.4	16.3	11.2	10.8	----	----
NWSC	3.4	10.0	16.3	2.7	13.4	----	----	----	----
SESC	----	9.0	7.0	22.2	----	----	----	----	----
SWSC	3.4	18.2	15.3	26.1	24.2	----	19.3	----	----
OCW	20.5	7.1	10.5	13.3	4.0	----	----	----	----
PAMC	6.8	13.4	7.9	12.4	19.9	----	1.7	----	----
LU	28.1	7.4	6.7	7.2	----	----	----	----	5.0
State 2-Year Colleges:									
Cameron	----	24.8	32.1	29.1	45.2	31.2	----	----	----
Connors	----	12.3	8.5	8.0	25.9	----	----	----	----
Eastern	----	13.8	13.7	11.0	6.4	14.2	----	----	6.4
Murray	----	16.0	7.5	13.7	----	8.5	----	----	----
NEOAMC	----	29.4	20.2	17.5	26.8	21.5	----	----	7.8
NOJC	50.9	14.2	13.4	18.8	8.6	----	----	3.6	----
OMA	----	23.8	13.9	36.6	20.2	----	38.6	----	----
Private Institutions:									
Tulsa	17.2	18.5	18.1	25.2	27.4	6.2	3.9	----	----
OCC	----	14.1	16.3	22.6	----	----	----	----	----
St Greg	----	2.8	22.3	----	----	----	----	----	----

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[a] Based on a 44-hour week.
[b] Based on optimum stations.

Table 29—Percentage Distribution of Room-Periods of Use per Week According to the Student-Station Capacity of All General Classrooms and the Size of Classes Meeting in Them for 21 Oklahoma Colleges and Universities, Fall, 1963

No. of Optimum Stations in Rooms	Size of Class									
	1 thru 9	10 thru 19	20 thru 29	30 thru 39	40 thru 49	50 thru 59	60 thru 79	80 thru 99	100 and Over	Total
1 thru 9	0.1	----	----	----	----	----	----	----	----	0.1
10 thru 19	0.8	0.9	0.3	----	----	----	----	----	----	2.0
20 thru 29	2.0	3.1	2.8	0.8	0.1	----	----	----	----	8.8
30 thru 39	3.3	6.3	7.0	4.2	1.5	0.5	0.1	----	----	22.9
40 thru 49	2.1	5.5	8.2	6.8	3.0	1.1	0.5	----	----	27.2
50 thru 59	1.2	2.9	3.6	4.3	2.2	1.1	0.6	0.1	----	16.0
60 thru 79	0.7	1.9	3.2	3.0	2.2	1.5	1.1	0.2	0.1	13.9
80 thru 99	0.2	0.4	0.7	0.9	0.6	1.0	0.7	0.3	0.1	4.9
100 and over	----	0.2	0.2	0.4	0.4	0.3	0.9	0.5	1.3	4.2
Total	10.4	21.2	26.0	20.4	9.9	5.6	3.9	1.1	1.5	100.0

NOTE: This table should be read as follows: Of all the classes held in the classrooms of all 21 institutions, 0.1 per cent were held in rooms having from 1 through 9 stations and all of these classes had from 1 through 9 students in them. Two per cent of the classes were held in rooms having from 10 through 19 stations. However, slightly less than half of the 2 per cent (0.8 per cent) had from 1 through 9 students while 0.9 per cent had from 10 through 19 students and 0.3 per cent had from 20 through 29 students.

Table 30—Percentage Distribution of Room-Periods of Use per Week According to the Student-Station Capacity of All Teaching Laboratories and the Size of Classes Meeting in Them for 21 Oklahoma Colleges and Universities, Fall, 1963

No. of Optimum Stations in Rooms	Size of Class									
	1 thru 9	10 thru 19	20 thru 29	30 thru 39	40 thru 49	50 thru 59	60 thru 79	80 thru 99	100 and Over	Total
1 thru 9	9.3	0.5	0.2	----	----	----	----	----	----	10.0
10 thru 19	6.4	9.3	2.5	0.4	----	0.1	----	----	----	18.7
20 thru 29	6.5	10.0	8.2	2.0	0.3	0.1	0.1	----	----	27.2
30 thru 39	3.7	7.3	9.1	6.9	1.2	0.2	0.1	----	----	28.5
40 thru 49	0.9	1.3	1.9	1.9	1.1	----	----	----	----	7.1
50 thru 59	0.7	0.9	0.4	0.5	0.2	----	----	----	----	2.7
60 thru 79	0.5	0.4	0.4	0.8	0.1	0.5	0.3	0.4	0.1	3.5
80 thru 99	0.1	----	0.1	0.1	0.2	----	0.4	----	----	0.9
100 and over	0.5	0.2	----	0.1	0.1	----	----	0.3	0.2	1.4
Total	28.6	29.9	22.8	12.7	3.2	0.9	0.9	0.7	0.3	100.0

NOTE: This table should be read as follows: Of all the classes held in the teaching laboratories of all 21 institutions, 10 per cent were held in rooms having from 1 through 9 stations. Almost all of the 10 per cent (9.3 per cent) had from 1 through 9 students while 0.5 per cent had from 10 through 19 students and 0.2 per cent had from 20 through 29 students.

From Table 29, the classes, as represented by the percentages in the heavy black squares running diagonally across the table, are classes that were held in rooms having capacities approximately the same as the size of the classes. Classes represented by percentages above the heavy black squares were held in rooms that had capacities smaller than the size of the classes. Classes represented by percentages below the heavy black squares were held in rooms that had capacities larger than the size of the classes. For example, on the second line from the top a 2 per cent figure is indicated in the far right column. That figure indicates that 2 per cent of all the classes in Oklahoma institutions were held in rooms with a capacity from 10 through 19 students. Of the 2 per cent, 0.8 per cent had from 1 through 9 students, 0.9 per cent had from 10 through 19 students, and 0.3 per cent had from 20 through 29 students.

Adding all the percentages in the heavy black squares, only 14.8 per cent of the classes in the 21 institutions were held in rooms that had a capacity approximately the same as the size of the classes. Six per cent of the classes were held in rooms that had a smaller capacity than the size of the classes. The remainder, or 79.2 per cent, were held in rooms that had a larger capacity than the size of the classes.

Table 30 shows that institutions do a better job of matching classes with labs than they do with classrooms. Altogether, 35.3 per cent of all lab classes were held in rooms that have approximately the same capacity as the size of the classes. Another 8.2 per cent of the lab classes were held in rooms that have a smaller capacity than the size of the classes and the remainder, or 56.5 per cent, were held in rooms that have a larger capacity than the size of the classes.

Because of lack of space, an institution-by-institution analysis of the type presented in Tables 29 and 30 is not presented in this report. However, each institution did prepare such an analysis and it should be of value to them as they plan for the future.

Utilization by Building.—Since institutions generally use some buildings on their campuses more than they do others, it was considered important to make an analysis of classroom and laboratory utilization by building. Table 31 shows the results of this analysis for both classrooms and labs.

Variances of utilization of classrooms and labs by building might be due to many reasons, several of which are (1) differences in building quality, making it more desirable to hold classes in some buildings than in others, (2) buildings being assigned to particular departments or divisions, thereby limiting their use by other departments, and (3) location of the buildings. Whatever the reason for the variances that might exist, however, it is highly desirable that institutional officials be aware of differences in utilization rates for the various buildings on their campus. Only in this way can the best possible planning for future buildings occur.

Utilization by Assignment of Room.—Sometimes institutions follow the policy of assigning rooms for the exclusive use of particular departments. When this is done, the rooms that are assigned generally are not used as much as unassigned rooms. All institutions that participated in this study were asked to indicate on the room inventory form whether or not a classroom or laboratory was assigned to a department. Most institutions indicated that no assignment of rooms was made and that all rooms could be placed in the "unassigned" category. However, there were several that did indicate the assignment of some of their rooms to particular departments. Table 32 analyzes the differences in utilization of classrooms and labs for those institutions that did assign any of their classrooms and labs to particular departments.

Table 32 reveals that, in the case of classrooms, five of the eight institutions that are included in the table show lower utilization rates for rooms that were assigned to departments than for rooms that were unassigned. In the case of laboratories, two of the four institutions that indicated an assignment of some laboratories show a lower utilization rate for those that were assigned.

It should be pointed out that even though an institution might have a policy of not assigning any classrooms or labs to departments, the end result quite often is the same as if it did. To illustrate, if there is a building on campus that is normally thought of as the business building, preference generally would be given to the scheduling of business classes in the building. Proximity to the offices of the business faculty is an advantage to students and faculty alike. Only in the event of lack of space elsewhere would other classes be scheduled in the building. Thus, even though rooms might theoretically be unassigned, in actual practice the result is the same as if they were assigned. Laboratories,

Table 31—Per Cent of General Classroom and Teaching Laboratory Room-Period and Student-Station-Period Utilization by Building for 21 Oklahoma Colleges and Universities, Fall, 1963

		Classrooms			Laboratories		
Institution	**Building**	**No. Rooms**	**Room-Period Use**	**Student-Station-Period Use**	**No. Rooms**	**Room-Period Use**	**Student-Station-Period Use**
OU	Adams	20	65.0	49.6	7	45.1	25.6
	Armory	9	32.6	26.2	1	22.2	11.7
	Bizzell	4	64.8	38.2			
	Buchanan	18	72.2	53.7			
	Burton	5	32.5	28.4	10	20.4	18.9
	Carnegie	1	6.8	9.9	1	145.3	84.1
	Chem. Engr.	2	34.1	15.5	1	9.1	14.2
	De Barr	1	59.2	33.5	16	29.7	34.9
	Drama	2	65.9	29.4	1	63.6	3.4
	Education	16	50.5	45.0	4	30.7	1.1
	Engr. Lab.	5	44.5	38.4	11	36.4	35.9
	Felgar	15	61.9	31.3	10	23.6	26.1
	Field House	2	20.5	17.3			
	Gittinger	19	62.4	70.7			
	Gould	9	38.4	23.8	12	27.3	23.5
	Holmberg	4	53.9	33.9	2	39.8	27.2
	Jacobson	1	31.8	25.2	1	13.6	16.8
	Copeland	9	55.6	40.6	3	33.3	20.6
	Kaufman	26	68.5	62.2	3	70.5	46.5
	Monnet	3	50.7	40.7	1	36.4	29.4
	Nuclear Engr.	1	61.3	29.3	2	12.5	10.5
	Park Row 2	1	59.1	43.7			
	Pharmacy	3	29.7	17.5	7	16.6	12.8
	Physics	7	59.7	33.1	7	46.2	46.9
	Richards	3	35.6	24.9	13	50.6	54.5
	T-1	4	49.4	35.6			
	T-2	1	20.4	24.9	4	34.1	18.2
	T-3	4	28.9	14.6	4	14.8	14.7
	Women's	2	51.2	42.3			
	Owen Stad.	5	48.6	34.0	3	52.3	33.6
	Johnson				8	91.0	90.9
	Greenhouse				1	70.5	39.9
	Science Annex				1	27.3	27.7
	Carpenter				11	26.4	38.9
OSU	Ag. Hall	4	64.8	34.9	6	39.8	27.0
	Animal Husb.	3	67.4	34.2			
	Classroom	41	84.0	45.3	1	52.3	40.2
	Communications	2	73.9	51.4	5	74.5	46.1
	Crutchfield	4	40.3	26.7	13	38.3	40.8
	Dairy	1	70.5	50.4	1	0.0	0.0
	Engineering	15	61.2	26.7	10	50.7	47.4
	Field House	3	40.9	30.5			
	Fire Station	1	72.7	34.1	2	39.8	31.5
	Geology	2	73.9	62.2	1	54.5	28.3
	Gunderson	3	72.0	25.9	7	74.0	51.0
	H. Ec.-West	17	45.1	26.6	12	31.6	23.9
	H. Ec.-East	6	62.1	45.7	5	30.0	23.6
	Ind. Bldg.	2	38.6	19.0	11	21.5	16.4
	Library	2	39.8	16.1	1	9.1	7.7
	Life Science	2	48.9	45.3	16	54.4	47.5
	Meat Lab	1	93.2	37.9			

TABLE 31—Continued

Institution	Building	Classrooms			Laboratories		
		No. Rooms	Room-Period Use	Student-Station-Period Use	No. Rooms	Room-Period Use	Student-Station-Period Use
OSU (Cont.)	Morrill	6	69.7	48.7	7	48.4	46.0
	N. Stadium	1	9.1	3.3	3	19.7	18.0
	Old Dairy Barn	2	53.4	28.2	1	22.7	25.2
	Physical Sci.	7	78.6	56.9	8	24.4	22.1
	Poultry	2	29.5	11.4			
	Old Central	1	52.3	55.9			
	Vet. Med.	2	53.4	30.9	3	34.1	19.7
	Whitehurst	2	30.7	12.8	8	45.2	50.2
	Williams	6	79.5	53.1			
	Quonset 2-C	2	63.6	22.1	1	13.6	10.0
	Quonset 5-C	3	35.6	22.3			
	Quonset 22	7	34.7	29.5			
	Quonset 25	5	30.9	20.9			
	TF 1-C	2	9.1	5.8			
	Aquatic Biol.				1	43.2	36.5
	Engr. Annex				5	17.7	11.2
	Old Cafeteria				1	29.5	25.4
	Print Shop				2	35.2	22.0
	Chem. Lab.				2	93.2	74.0
	Quonset 9				1	13.6	11.1
	Quonset 20				1	47.7	42.8
	Diesel Lab				1	40.9	15.9
	Mech. Engr. Lab				1	40.9	8.6
	TF 16-C				1	68.2	69.7
CSC	LA & Human.	17	57.7	35.4	2	29.5	22.4
	Evans	11	63.6	35.9			
	Ind. Arts	2	26.1	12.6	6	49.2	43.2
	Wantland	1	34.1	38.1			
	Business	11	47.3	31.6	3	52.3	37.9
	Library	2	29.0	12.6			
	Howell	9	40.9	23.6	12	43.8	38.2
	Old North	17	28.3	20.2	1	61.4	36.9
	Math	11	39.7	17.7			
	Home Ec.	1	38.6	26.9	2	25.0	23.9
	Broncho Cor.	3	56.1	58.5			
	Fine Arts	3	30.3	12.5	6	19.3	16.0
ECSC	Adm.	21	43.1	24.5	3	32.6	21.4
	Science	11	23.7	17.4	13	14.2	14.6
	Health	3	15.2	7.0			
	Horace Mann	4	21.6	8.2	10	45.7	16.4
	Education	10	34.4	24.4	6	46.2	27.0
NESC	Adm.	15	62.4	43.7	5	33.6	25.2
	Library	1	47.7	25.9			
	Ind. Arts	1	34.1	23.5	4	48.9	34.1
	Science	24	33.9	19.2	13	19.9	11.6
	Health & P. E.	2	44.3	22.6			
	Practical Arts	4	48.3	29.0	5	27.7	21.9
	Fine Arts	4	40.9	30.7	2	20.5	4.3
	Education	1	40.9	20.0	1	40.9	34.9
	Speech Clinic				2	30.7	34.9
	Ind. Arts Annex				1	25.0	7.2
	Student Center				1	6.8	5.0

TABLE 31—Continued

Institution	Building	Classrooms			Laboratories		
		No. Rooms	Room-Period Use	Student-Station-Period Use	No. Rooms	Room-Period Use	Student-Station-Period Use
NWSC	Jesse Dunn	19	36.5	22.0	8	35.4	15.6
	Fine Arts	12	26.2	9.4			
	Educ. Center	5	31.1	17.3	3	12.9	11.7
	Library	1	26.1	5.5			
	Science	5	25.5	11.5	13	11.9	8.5
	Fieldhouse	1	27.3	23.8			
	Ind. Arts	1	13.6	5.1	5	27.3	15.1
SESC	Adm.	13	38.2	19.9	1	0.0	0.0
	Classroom	21	32.8	16.9	3	34.1	22.7
	HPE	3	27.3	21.0			
	Home Ec.	2	23.9	5.6	3	4.2	1.5
	Ind. Arts	2	30.7	20.7	3	17.4	12.7
	Library	5	12.0	3.9			
	Metals	1	37.5	15.0	1	27.3	14.0
	Science	7	19.8	11.7	6	20.1	19.6
	Auto Mech.				1	27.3	22.4
	Music Annex				2	27.3	3.6
SWSC	Biol. Sci.	18	44.9	27.0	10	38.6	17.5
	Health & P. E.	4	45.5	28.2	1	88.6	6.1
	Library	3	22.0	23.9	2	8.0	8.4
	Music	2	30.1	9.6	5	33.4	18.5
	Science	10	45.0	30.1	13	27.8	23.9
	Education	14	59.4	45.6	1	90.9	40.9
	Ind. Arts				2	25.0	19.1
	Ind. Arts				4	18.2	13.2
OCW	Austin	7	27.9	10.3	11	22.1	7.1
	Adm.	12	27.3	12.2	4	35.8	13.8
	Fine Arts	8	30.7	7.5	9	26.5	20.5
	Library	6	29.5	19.5			
	Home Ec.	6	10.2	4.7	5	16.4	8.0
	Phys. Ed.	2	15.9	4.2			
PAMC	Sewell	4	19.3	6.5	7	3.9	1.6
	Education	3	22.7	13.5			
	Hesper	2	13.6	5.3	2	13.6	5.2
	Hughes	5	27.3	8.4			
	Ind. Arts	3	23.5	8.3	2	10.2	5.6
	Classroom	14	32.0	19.4	5	25.9	13.8
	Science	2	36.4	21.4	10	23.7	18.7
	Library	2	1.1	1.5			
	Health & P. E.	1	31.8	10.0			
	Metal Shop				3	20.5	10.0
LU	Adm.	7	35.4	21.7	4	3.4	1.2
	Page	5	14.1	10.0	5	20.5	5.6
	Science	9	26.5	13.0	9	9.8	6.3
	Gym	3	16.7	4.8			
	Mech. Arts	1	25.0	11.0	4	22.7	17.3
	Cosmetology				1	34.1	11.4
Cameron	Military	2	29.5	28.7			
	Adm.	12	55.3	35.1	4	45.5	34.2
	Library	3	61.4	38.5			
	Science	2	57.1	29.9	7	43.2	35.6
	Field House	2	25.0	19.1			

TABLE 31—Continued

Institution	Building	Classrooms			Laboratories		
		No. Rooms	Room-Period Use	Student-Station-Period Use	No. Rooms	Room-Period Use	Student-Station-Period Use
Cameron (Cont.)	Aud.-Music				2	85.2	25.0
	Shop				2	38.6	28.4
	J. Johnson				6	46.2	30.8
Connors	Adm.	7	34.7	13.7	3	34.8	17.6
	Classroom	12	19.9	5.9	1	4.5	1.5
	Library	5	31.4	14.7	1	31.8	26.1
	Gym	1	22.7	13.4			
	Shop				4	19.3	8.1
Eastern	Fine Arts	5	20.0	8.7	3	43.9	8.8
	Agriculture	4	19.9	11.2	4	16.5	15.1
	Mitchell	8	34.4	20.8	4	10.8	4.5
	Library	8	36.1	18.7	4	19.3	15.4
	Ind. Educ.	1	11.4	8.8	6	26.9	13.5
Murray	Phys. Ed.	1	40.9	17.5			
	Engr.	1	29.5	8.7	3	12.9	6.8
	Library	3	36.3	16.7	5	18.2	9.4
	Adm.	8	4.1	18.5	4	26.7	16.6
NEOAMC	Adm.	11	56.4	34.0	1	88.6	78.8
	Fine Arts	4	48.2	36.4	10	37.3	20.9
	Welding	1	77.3	26.4	1	0.0	0.0
	Auto Mech.	1	11.4	4.3	1	0.0	0.0
	Life Sci.	8	52.6	26.1	5	20.0	13.3
	Woodwork				1	43.2	19.0
	Machine Shop				1	90.9	34.5
NOJC	Foster Piper	1	9.1	4.5			
	Wilkin	5	21.4	13.9	6	31.8	9.8
	Harold	7	25.3	13.2	4	35.2	24.5
	Central	8	27.0	14.9	1	6.8	2.1
	Ind. Arts				6	27.7	11.0
OMA	Adm.	12	54.2	24.8			
	Lib. Sci.	8	52.6	21.2	7	52.6	28.7
	Engr. Speech	1	61.4	43.3	3	18.9	14.0
	Mil. Sci.	2	12.5	9.0			
	Mil. Sci.	5	19.5	8.2			
	Rifle Range	1	20.5	5.5			
	Field House				2	45.5	33.4
Tulsa	Lorton	13	58.2	33.7	3	43.9	30.2
	Oliphant	9	72.5	47.5	7	50.6	41.9
	Phillips	12	39.4	18.0	1	40.9	14.3
	Kendall	7	33.4	26.4	9	24.5	25.1
	Petro. Sci.	10	46.6	22.9	16	14.3	10.4
	Tyrrell	3	37.9	26.2	4	6.8	4.0
	Law	7	23.7	17.4			
	Speech	2	23.9	10.9			
	Home Ec.	1	29.5	31.3	1	13.6	13.6
	Library	1	13.6	9.1			
	Art	1	84.1	22.1	2	15.9	26.4
	NC 1944				2	25.0	24.9
OCC	Arts	7	57.0	33.9	2	29.5	18.1
	Science	4	47.7	20.4	2	54.0	21.4
St Greg	Adm.	15	46.4	26.8	7	26.9	20.7

because of the specialized equipment that is present in them, generally are not usable by more than one department. Therefore, laboratories, in reality, are almost always assigned to a department.

Year-Round Plant Utilization

All of the utilization data that are presented in this section are for the fall semester and do not take into consideration the degree of utilization for the spring semester, the summer session, or any other part of the year. The 21 institutions that participated in this study are all on the semester system but some operate summer sessions while others do not. Also, institutions vary a great deal with respect to the percentage of the fall enrollment that is retained for the spring semester and the summer session. Therefore, if year-round utilization of the physical plant were considered, comparisons would very likely be different, and generally lower.

Institutions that operate on the semester system with no summer session generally operate from 32 to 36 weeks a year while those that hold an eight-week summer session operate from 40 to 44 weeks a year. Thus, in institutions that participated in this study, facilities are not used from 8 to 20 weeks out of the year.

In the past several years quite a number of colleges and universities across the country have found it advisable to lengthen their calendars so that a more complete year-round usage is achieved. According to Stickler and Carothers.

> . . . probably 50-60 colleges and universities are currently operating within the framework of the newer views concerning year-round operation. Perhaps 85-100 additional institutions are giving serious consideration to the feasibility of changing to new-type full-schedule calendars.[11]

Institutions vary a great deal with respect to the method of lengthening the school calendar. Some lengthen the summer session to 12 weeks or add a second summer session. Others are going to a quarter system (generally, four quarters 12 weeks in length) or a trimester system (generally, three trimesters approximately 15 weeks in length). The University of Pittsburgh began a trimester plan in 1959 and since that time has conducted extensive research to determine the results of the plan. The four institutions comprising the Florida system of higher education started a trimester plan in 1962. In those institutions, the spring trimester consists of one eight-week and one seven-week session. The Pennsylvania State University

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[11] Paper presented to the Nineteenth National Conference on Higher Education, sponsored by the Association for Higher Education, Chicago, April 20, 1964.

Table 32—Utilization of General Classrooms and Teaching Laboratories by Assignment of Room by 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	General Classrooms				Teaching Laboratories			
	Per Cent of Room-Period Use [a]		Per Cent of Student-Station-Period Use [b]		Per Cent of Room-Period Use [a]		Per Cent of Student-Station-Period Use [b]	
	Unassigned	Assigned	Unassigned	Assigned	Unassigned	Assigned	Unassigned	Assigned
State 4-Year Colleges:								
ECSC	36.0	18.2	21.2	12.3	38.6	31.5	22.4	18.4
NESC	35.8	50.5	19.0	32.7	6.8	28.2	6.7	17.2
SWSC	53.0	38.5	36.6	26.0	35.2	32.3	34.3	20.3
PAMC	32.5	20.1	18.8	8.1				
State 2-Year Colleges:								
Murray	39.1	39.2	16.5	20.3				
NOJC	20.5	27.7	11.4	15.6	6.8	31.1	2.1	14.1
OMA	50.3	38.0	23.3	15.0				
Private Institution:								
Tulsa	48.7	23.7	29.7	17.4				

[a] Based on a 44-hour week. Rooms for institutions not shown are all unassigned.
[b] Based on optimum stations.

began a quarter plan in 1961 with each of the four quarters consisting of ten weeks.

Here in Oklahoma, Oklahoma City University has operated for a number of years with a calendar consisting of two semesters and two six-week summer sessions and for a couple of years has operated its evening program on a trimester basis. Recently the administration at Tulsa University indicated that that institution is considering a quarter system to begin the fall of 1965.

Why the Trend Toward Year-Round Operation— The idea of year-round operation of colleges and universities definitely has "caught on." More research is being done on the subject all the time, more is being said about it, and more and more institutions are talking about adopting some system of year-round operation. Three basic reasons are quite often advanced as to why institutions would find it wise to move in the direction of utilizing their campuses throughout the year.

1. Because of greatly increased enrollments, institutions will likely not be able to build buildings rapidly enough to handle all prospective students if present school calendars are continued. Even if buildings could be built rapidly enough, it would be a more desirable policy to make the greatest possible use of available resources.

2. There is a serious shortage of qualified college faculty members and that shortage will become even greater in the years ahead. Therefore, colleges should operate on a longer school year so as to be able to utilize faculty more fully.

3. The years spent in higher education in preparing for many occupations is becoming excessively long. Many young men and women should be given the opportunity to accelerate their college education in order that they might become productive members of society at an earlier age than is now possible. At the same time, society's need for an increased supply of trained manpower would be more completely satisfied.

Assuming an adequate enrollment year-round, there seems to be little doubt that an institution can graduate students at a substantially lower cost with full-year operation than with the typical semester plus summer session system. The physical plant can serve more students resulting in a lesser need for additional buildings and equipment. Expenditures for personal services, although they will rise with full-year operation, will not rise in proportion to increases in production. The auxiliary enterprises will realize greater income, thereby making it possible to lower the cost to students for services rendered by these enterprises.

Students who take advantage of year-round operation of an institution would be able to complete a degree program in substantially less time. A program that would require four years to complete under the semester system would take three years or less under a system of full-year operation. There are even indications that students perform better under a plan of acceleration.

Problems of Year-Round Operation.—The year-round calendar is not without its problems. Perhaps the biggest problem is that of getting faculty members to teach and students to go to school during the summer months. If this problem is not solved to the extent that substantial numbers of students are willing to go to school during the summer and sufficient faculty members are willing to teach, no savings can be effected through full-year operation. In fact, costs could even rise considerably.

Another problem of major significance is that of acquiring the necessary additional finances during the early years of operating on a year-round basis. There is general agreement that more operating money would be required—in the early years—but presumably there would be greater production so that costs in the long run would be less.

There are, of course, other problems. There is the problem of articulation between high school and college and between one college and another. The financial problems of students will be greater as a result of year-round college attendance. Greater portions of the college physical facilities will need to be air conditioned. These are illustrations of quite a number of problems associated with year-round operation of a college that would have to be solved if such a plan were to prove to be feasible.

Implications for Oklahoma Institutions.—As enrollment pressures mount in Oklahoma higher education, it will very likely be necessary for a few institutions to move toward a more complete year-round use of their resources. It might not, however, be economically feasible for all institutions to expand their calendars in the foreseeable future. The institutions that will be called upon to bear the greater part of the enrollment burden, generally those located in the metropolitan areas, are the ones that could conceivably effect substantial savings from year-round operation. Other institutions might not be able to garner enough students during the summer months to make such an operation pay.

Part V—Additional Physical Plant Needs

In previous sections of this report, data have been presented relative to the quantity of physical plant space available in the 21 institutions participating in this study, the quality of that space, and the extent to which certain kinds of space; i.e., classrooms and laboratories, are being utilized. The primary value of that data is for use in assessing the adequacy of present physical plant space and making projections of additional needs for the next decade.

Projecting needs for physical plant space is far from being an exact science. The varied and complex kinds of space that are needed by modern colleges and universities in many cases defy the application of objective standards and criteria. As a result, relatively few space standards have been developed or used nationwide in colleges and universities. There are a few standards that are available, however, and they have proved to be extremely helpful in this study.

In studying space needs of Oklahoma institutions, a basic assumption has been made that most space needs are related in some manner to institutional enrollment. In other words, the amount of space that is needed depends to a large extent upon the number of students in the institution. At the same time, it is recognized that certain kinds of space, particularly that needed for research and extension, should bear little or no relation to the number of students in the institution.

The estimates of space needs that appear in this section are presented in three parts—those that exist at present, those that will exist when institutions reach an assumed enrollment plateau, and those that will exist when institutions reach a second assumed enrollment plateau. Although it should not be inferred that the assumed enrollments constitute institutional enrollment predictions as of specific points in the future, the plateaus might, for convenience, be thought of as being reached by about 1970 and 1975. If institutions reach the enrollment plateaus before those dates, the needs would develop earlier. If the assumed enrollments are not reached by 1970 and 1975, the needs would not develop until a later date.

For obvious reasons, it is not possible or feasible for institutions to add the necessary space to accommodate one student each time an additional student enrolls. Neither is it possible or feasible to add a classroom each time enough additional students enroll to fill it. The building of college physical plant space must necessarily be a great deal more spasmodic. An institution might spend upward to five years planning a building, obtaining the necessary funds, and constructing it. As a result, it is seldom possible for an institution to have a physical plant that exactly fits its student body. For these reasons, it is more logical to make projections of space needs on the basis of comparatively large enrollment expansions rather than on the basis of many smaller increments.

Criteria Used in Projecting Space Needs

Projections of space needs were made for each educational and general function except "Organized Research," "Extension and Public Services," and "Organized Activities Relating to Educational Departments." No space projections were made for research, extension, and organized activities because not enough data were available to serve as a basis for logical and defensible estimates of future needs. It should be assumed, however, that additional space needs will exist in those areas, particularly in the areas of research and extension. To the extent that they do not reflect these needs, the projections are incomplete.

No attempt was made to project space needs for auxiliary enterprises, contract research, and other activities not considered to be an educational and general operation of the institution. In the case of the state-supported institutions, providing such space is largely an institutional matter and is not a responsibility of the state. Therefore, projecting space needs for activities other than educational and general activities has been considered outside the scope of this study.

The criteria that are set forth in the following paragraphs were used in making space projections.

Administration and General Space.—*A standard of five assignable square feet per FTE student was used.* Table 16 shows that all 21 institutions participating in this study averaged 5.4 square feet of space per FTE student for administration and general purposes. The state universities averaged 5.1 square feet for that purpose, the state four-year colleges 5.5 square feet, the state two-year colleges 5.7 square feet, and the private institutions 6.6 square feet. Although there were individual institutions that were using more than five square feet of space per FTE student for administration and general purposes, Table 16 shows that as institutions grow in enrollment they generally use less space per student for this function. Therefore, it would seem that five square feet per student would be a reasonable average for projection purposes.

General Classroom Space.—*A room-period utilization standard of 30 hours per week and a student-station utilization standard of 67 per cent were used.* In other words, according to these standards, institutions would be expected to schedule classrooms an average of 30 hours a week and fill them to 67 per cent of capacity during those 30 hours. These standards were reached after study of standards that are being used in other states. For example, in the States of California, Nebraska, and Wisconsin a room-period utilization standard of 30 hours per week has been adopted.[12] California has adopted a student-station utilization standard of 60 per cent, Nebraska 65 per cent, and Wisconsin 67 per cent.[13]

In applying these standards, it was necessary to multiply the assumed institutional enrollment by the average student-station-period utilization per FTE student in the various institutions in order to find the total student-station-period utilization for the assumed enrollment. "Student-station-period utilization per FTE student" is a statistic that represents the average number of hours per week that a student carrying a full load will occupy a seat in a classroom. The average student-station-period utilization per student for classrooms varies considerably from one institution to another as is shown by the following tabulation presenting data for the fall semester of 1963.

Institution	Avg. Student-Station-Periods per Week per FTE Student
OU	13.5
OSU	12.5
CSC	10.9
ECSC	13.1
NESC	11.4
NWSC	13.5
SESC	11.2
SWSC	13.9
OCW	12.7
PAMC	11.2
LU	9.6
Cameron	10.7
Connors	11.3
Eastern	12.2
Murray	13.6
NEOAMC	13.0
NOJC	9.5
OMA	13.8
Tulsa	13.4
OCC	10.3
St. Gregory's	15.3

The fact that student-station-period use per FTE student varies from 15 (the number of semester hours for a full-time-equivalent student) is due to the fact that quite often a substantial amount of a student's in-class time is spent in rooms other than those classified as classrooms. For example, students also receive credit for laboratory work, music instruction, physical education, and other similar activities that are carried on in teaching laboratories, auditoriums, gymnasiums, faculty offices, and the like. Thus, classroom student-station-period use per FTE student should not be expected to approximate 15.

After the total student-station-period utilization for the assumed enrollment was determined, it was possible to calculate the number of student-stations that would be needed in order to accommodate the projected student-station-period utilization. This was done by dividing the student-station-period utilization by 67 per cent and the result by 30. Reduced to a formula, the method of calculating the number of classroom student-stations needed to accommodate a given enrollment is as follows:

$$\frac{\text{Enrollment} \times \text{Avg. Student-Station-Periods per FTE Student}}{.67} \div 30 = \text{Student Stations Required}$$

The number of required student stations was then multiplied by 15 *square feet* (*the standard for the number of square feet per student station*) in order to find the total number of square feet required for classroom space. The standard of 15 square feet per station was reached after studying the data presented in Part IV relative to the average number of square feet per station in institutions in other states as well as those in Oklahoma.

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[12] As reported in *Physical Facilities Survey and Utilization Study, Op. Cit.*, p. 160.

[13] *Ibid.*, p. 162.

Teaching Laboratory Space.— *A room - period utilization standard of* 24 *hours per week and a student-station utilization standard of* 80 *per cent were used.* These standards were reached in the same way as those for general classrooms—through consideration of standards adopted in other states. California and Nebraska, for example, has adopted standards of 20 hours per week with an 80 per cent student-station utilization. Wisconsin has adopted a standard of 24 hours per week with an 80 per cent student-station utilization.[14]

These standards were applied in the same way as those for classrooms. The following formula was used for this purpose:

$$\frac{\text{Enrollment} \times \text{Avg. Student-Station-Periods per FTE Student}}{.80} \div 24 = \text{Student Stations Required}$$

The average student-station-period utilization per student that was used in the above calculation is presented in the following tabulation.

Institution	Avg. Student-Station-Periods per Week per FTE Student
OU	4.0
OSU	4.7
CSC	2.6
ECSC	3.2
NESC	2.9
NWSC	3.0
SESC	1.8
SWSC	4.2
OCW	3.9
PAMC	3.9
LU	2.6
Cameron	6.5
Connors	2.7
Eastern	4.7
Murray	3.7
NEOAMC	3.9
NOJC	4.2
OMA	5.9
Tulsa	2.9
OCC	1.9
St. Gregory's	3.2

After the required number of student-stations in teaching laboratories was determined, the number of stations was then multiplied by 40 *square feet* (*the standard*) to get the total number of square feet necessary for laboratories. As shown by Table 18, the average number of square feet per optimum station in laboratories was 40.5 square feet in the 21 institutions participating in the study. The state universities had an average of 44.2 square feet, the state four-year colleges had an average of 36.8 square feet, the state two-year colleges had an average of 42.9 square feet, and the private institutions had an average of 34.9 square feet.

Faculty Office Space. — *A standard of seven square feet per FTE Student was used.* At a student-teacher ratio of 18:1, this standard would allow 126 square feet per FTE faculty. Comparing this standard with standards in other states, Wisconsin has adopted a standard of 120 square feet,[15] Illinois has adopted a standard of 120 square feet (although that state added a factor for conference rooms, reception rooms, and the like, which increased the standard to 135 square feet),[16] and Colorado has adopted a standard of 120 square feet.[17]

"Other" Instructional Space.—In arriving at a standard for this type of space, the assumption was made that the quantity of such space should be related to the amount of classroom, laboratory, and faculty office space. Accordingly, a calculation was made in order to determine this relationship in Oklahoma institutions. It was found that "other" instructional space was 85.9 per cent of classroom, laboratory, and faculty office space considering all 21 institutions as a whole. A comparable figure for the state universities was 88.4 per cent, in the state four-year colleges it was 81.3 per cent, in the state two-year colleges it was 84.1 per cent, and in the private institutions it was 98.5 per cent. *A standard of* 85 *per cent was selected.*

Library Space.—Library space standards were adopted on the basis of (a) consultation with several librarians in the state, (b) consideration of recommendations of national experts in the field of library planning, and (c) consideration of standards that have been adopted in other states. The standards that were used in arriving at library space needs are as follows:

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[14] *Ibid.*, pp. 161 and 163.

[15] *Ibid.*, p. 109.

[16] Harlan D. Bareither, *et. al.*, *Op. Cit.*, p. 74.

[17] Thomas R. Mason, *Manual of Procedures and Standards for Building Space and Capital Outlay Planning* (Denver: Association of State Institutions of Higher Education in Colorado, 1963), p. VII-2.

1. *Reader Space—A standard of* 25 *square feet per reader was used with* 25 *per cent of the student body to be seated at one time.*
2. *Book Space—A standard of* 12 *volumes per square foot was used. The number of volumes allowed each institution was* (*a*) 1,000,000 *for OU,* (*b*) 750,000 *for OSU,* (*c*) 300,000 *for Tulsa,* (*d*) 50,000 *for the first* 600 *students in the four-year colleges and* 10,000 *for each* 200 *students over* 600, *and* (*e*) 20,000 *for the first* 1,000 *students in the two-year colleges and* 5,000 *for each* 500 *students beyond* 1,000. *A five per cent rate of growth in collections each year was allowed (or growth of student body, whichever was larger).*
3. *Service Space—A standard of* 25 *per cent of reader and book space was used.*

It was comparatively easy to establish standards relative to book collections in the four-year and two-year colleges. Much has been written on this subject by authorities in the field of library planning, and the American Library Association has recommended standards for book collections in four-year and two-year colleges.[18] In fact, it was the ALA's standards that were finally adopted for this study.

The problem of establishing book collection standards for the universities was quite difficult. There seem to be no standards for universities in this area, very likely because of the many differences that exist among universities with respect to program offerings. In arriving at standards for the universities, it was necessary to give consideration to the number of volumes now available in the university libraries and make judgments as to the adequacy of the collections. The special consultant, Dr. A. L. Pugsley, was of much help in this regard.

Physical Plant Service Space.—It was assumed that the amount of physical plant service space should bear a particular relationship to all other space. It was found that physical plant service space in the 21 institutions included in the study was 19.5 per cent of all other educational and general space. In the two state universities the relationship was 22.7 per cent, in the state four-year colleges it was 17.5 per cent, in the state two-year colleges it was 14.8 per cent, and in the private institutions it was 15.9 per cent. At OU, however, the relationship was 31 per cent, reflecting the use of a great deal of space on the north and south campuses for physical plant service. If the data for OU are excluded, the relationship for all other institutions combined is 16.2 per cent. On the basis of these data, *a standard of* 16 *per cent was adopted.*

Gross Square Feet.—All of the above criteria are based upon "assignable square feet" of space. Since building costs are normally quoted in terms of "gross square feet" of space, it was necessary to convert assignable space to gross space. Accordingly, a calculation was made to determine the relationship of assignable space to gross space (as defined in this study) in all of the buildings other than housing now existing in the colleges and universities participating in this study. That relationship was found to be 78 per cent. Assignable space was then converted to gross space by dividing assignable square feet by 78 per cent.

Building Costs.—Since building costs have been rising for a number of year and indications are that they will continue to rise, a projection was made of building costs to future years when facilities will be built. In order to do this, data were obtained relative to trends in building costs over the past few years in the Oklahoma City and Tulsa areas. *The Dow Building Cost Calculator and Valuation Guide* was used for this purpose.[19] It was found that costs have been rising at the rate of about 1.8 per cent a year over the last ten years. Consequently, that figure was used in projecting costs.

It was found that recent building costs in Oklahoma colleges averaged $19.05 per gross square foot. This average was calculated from space that has been built within the past two years, largely from the $30.5 million bond issue of 1960. There were 1,198,915 square feet of space included in the average at a total cost of $22,842,349.91. It is fortunate for the purposes of this study that such a large amount of space of various kinds has been built so recently. It provides an insight into college building costs in Oklahoma that could not have been obtained from any other source.

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[18] American Library Association, *ALA Standards for College Libraries* (Chicago: the Association of College and Research Libraries, 1959), and *ALA Standards for Junior College Libraries* (Chicago: the Association of College and Research Libraries, 1960), as reported in Theodore Samore, "Current Condition of American Academic Libraries," *Higher Education,* XX (December, 1963), p. 7.

[19] Myron L. Matthews (ed.), *The Dow Building Cost Calculator and Valuation Guide* (Edition No. 135; New York: F. W. Dodge Company, April-June 1964), pp. 101-121.

Applying the 1.8 per cent factor, it was concluded that physical plant space will cost an average of $19.74 per square foot in 1965, $21.58 per square foot in 1970, and $23.60 per square foot in 1975. It should be pointed up that these are average costs and that the cost of an individual building might be more or less depending upon the type of building that is built as well as other factors.

Space Projections

Upon the basis of the criteria presented above, estimates were made of physical plant space needs at present and in the several years ahead. Those estimates are presented in Tables 33, 34, and 35. Table 33 presents estimates of current needs, assumed to be built in 1965. Table 34 presents estimates of needs as they will exist when institutions reach an assumed enrollment plateau, possibly by 1970. The last table, Table 35, presents estimates of needs as they will exist when institutions reach a second assumed enrollment plateau, possibly by 1975.

It will be noted that there are no estimates of space needs for research, extension, and organized activities. As has been previously pointed out, future needs will exist in those areas (particularly research and extension), but no data are currently available to serve as a basis for defensible projections. The amount of such space that will be needed in the future will be dependent upon the extent to which the state desires to expand research and extension activities. Any estimates along these lines would be extremely problematical at this point.

No institution-by-institution estimates of costs of space appear on Tables 33, 34, and 35 because the square foot cost factor was designed to be an average of all kinds of space, appropriate only for the total. Costs for individual institutions might vary from the average depending upon the kinds of space that will need to be built.

As is shown by Table 33, it is estimated that the 18 state institutions need to build 377,237 gross square feet of space at the present time at an estimated cost of $7,446,658. This estimate does not take into consideration space at OU, OSU, CSC, SESC, Cameron, Murray, and NEOAMC that was under construction or space for which funds were available at the time of this study and that consequently was not included in the inventory of space. Neither does the estimate take into consideration the estimates of costs of needed renovation and repairs presented in Part II.

The estimates that are presented in Table 34 are based on the assumption that the space included in Table 33 will be built. On that assumption, it is estimated that the state institutions will need to build an additional 1,279,942 gross square feet of space when they reach the first assumed enrollment plateau (possibly by 1970). As shown by Table 34, this space is estimated to cost $27,621,148.

Assuming that the space included in Tables 33 and 34 will be built, Table 35 presents an estimate of 1,783,210 additional gross square feet of space that will be needed in the state institutions when they reach the second assumed enrollment plateau. This plateau will perhaps be reached by 1975. The cost of this additional space is estimated to be $42,083,756.

All of these estimates are based on the assumption that there will be no change in the use of existing space. It would be possible for institutions that show an excessive amount of space being used for one purpose to convert a portion of that space to another use and thereby reduce its overall need for additional space from what is indicated in the estimates appearing in Tables 33, 34, and 35. However, it is not possible to make specific recommendations based on the data in this study that particular space be converted to other uses. Such decisions would necessarily have to follow detailed campus studies.

As an illustration of the difficulties involved in recommending the conversion of space, assume a situation where there is a surplus of faculty offices but a shortage of classrooms. It might be completely improper to assume that the surplus faculty offices should be converted to classrooms. In the first place, it might be only a relatively short time before the faculty offices will be needed to house additional faculty that will be hired as a result of growth in enrollment. Also, the excess faculty office space might be completely unsuited for classrooms because of location, structural features of the building, or other reasons.

Although there might be reasons why excess space should not, in specific instances, be converted to other uses, institutional administrative officials and others charged with space planning responsibilities should give possible conversion priority of consideration. Additional space should be built only if the conversion from one use to another of existing space proves not to be feasible.

Table 33—Estimated Amount of Additional Physical Plant Space Needed in 21 Oklahoma Colleges and Universities and the Estimated Cost of That Space, Fall, 1963 [a]
(amounts in square feet)

Institution	Adm. & General	Instruction and Departmental Research					Libraries	Physical Plant Service	Total Assignable Square Feet	Total Gross Square Feet (a.s.f. ÷ .78)	Cost (g.s.f. x $19.74)
		General Classroom	Teaching Laboratory	Faculty Office	Other Instructional Space	Total Instruction					
State Universities:											
OU	1,221	----	----	----	----	----	7,693	----	8,914	11,428	
OSU	----	----	----	19,561	----	19,561	26,553	12,605	58,719	75,281	
Both Universities	1,221	----	----	19,561	----	19,561	34,246	12,605	67,633	86,709	
State 4-Year Colleges:											
CSC	3,200	----	----	3,057	----	3,057	40,400	12,159	58,816	75,405	
ECSC	----	----	----	----	----	----	3,139	----	3,139	4,024	
NESC	7,233	----	----	505	----	505	24,807	----	32,545	41,724	
NWSC	----	----	----	----	----	----	----	11,762	11,762	15,079	
SESC	----	----	----	----	----	----	8,225	2,831	11,056	14,174	
SWSC	7,543	----	----	----	----	----	24,264	491	32,298	41,408	
OCW	----	----	----	----	----	----	----	----	----	----	
PAMC	----	----	----	----	----	----	5,505	7,302	12,807	16,419	
LU	----	----	----	----	----	----	----	----	----	----	
All 4-Year Colleges	17,976	----	----	3,562	----	3,562	106,340	34,545	162,423	208,233	
State 2-Year Colleges:											
Cameron	3,439	----	----	2,158	----	2,158	7,529	2,770	15,896	20,379	
Connors	----	----	----	----	----	----	507	1,894	2,401	3,078	
Eastern	----	----	----	----	----	----	3,359	11,126	14,485	18,571	
Murray	----	----	----	----	----	----	51	1,930	1,981	2,540	
NEOAMC	3,859	----	----	----	4,157	4,157	9,869	3,423	21,308	27,320	
NOJC	----	----	----	----	----	----	----	3,788	3,788	4,856	
OMA	----	----	----	2,368	----	2,368	1,962	----	4,330	5,551	
All 2-Year Colleges	7,298	----	----	4,526	4,157	8,683	23,277	24,931	64,189	82,295	
All State Institutions	26,495	----	----	27,649	4,157	31,806	163,863	72,081	294,245	377,237	7,446,658
Private Institutions:											
Tulsa	----	----	----	----	----	----	28,565	9,359	37,924	48,621	
OCC	----	----	----	698	----	698	6,118	1,947	8,763	11,235	
St Greg	----	----	----	421	----	421	1,721	----	2,142	2,746	
Three Private Institutions	----	----	----	1,119	----	1,119	36,404	11,306	48,829	62,602	1,235,764
All Institutions	26,495	----	----	28,768	4,157	32,925	200,267	83,387	343,074	439,839	8,682,422

[a] Does not include space used for functions other than educational and general functions as well as space used for organized activities, organized research, and extension and public services. These estimates do not take into consideration space at OU, OSU, CSC, SESC, Cameron, Murray, and NEOAMC that was under construction or that had been approved for construction at the time of this study.

Table 34—Estimated Amount of Additional Assignable Physical Plant Space That Will Be Needed in 21 Oklahoma Colleges and Universities When They Reach the First Assumed Enrollment Plateau and the Estimated Cost of That Space [a] (amounts in square feet)

Institution	Assumed FTE Enrollment	Adm. & General	Instruction and Departmental Research					Libraries	Physical Plant Service	Total Assignable Square Feet	Total Gross Square Feet (a.s.f. ÷ .78)	Cost (g.s.f. x $21.58)
			General Classroom	Teaching Laboratory	Faculty Office	Other Instructional Space	Total Instruction					
State Universities:												
OU	19,417	37,735	63,450	20,920	58,216	43,087	185,673	101,379	—	324,787	416,394	
OSU	16,224	20,504	18,480	18,160	20,580	17,820	75,040	69,349	26,383	191,276	245,226	
Both Universities		58,239	81,930	39,080	78,796	60,907	260,713	170,728	26,383	516,063	661,620	
State 4-Year Colleges:												
CSC	8,234	17,575	3,210	11,040	36,722	40,197	91,169	45,777	24,723	179,244	229,800	
ECSC	2,872	624	—	—	10,651	—	10,651	13,588	—	24,863	31,876	
NESC	5,452	11,150	—	—	24,556	13,624	38,180	29,020	4,683	83,033	106,453	
NWSC	1,608	—	—	—	5,041	—	5,041	4,354	1,503	10,898	13,972	
SESC	2,212	3,016	—	—	6,194	—	6,194	9,160	2,939	21,309	27,319	
SWSC	3,830	6,830	3,825	—	15,449	—	19,274	17,803	7,026	50,933	65,299	
OCW	900	—	—	—	—	—	—	—	—	—	—	
PAMC	1,306	200	—	—	1,603	—	1,603	6,214	1,282	9,299	11,922	
LU	1,040	—	—	—	217	—	217	—	—	217	278	
All 4-Year Colleges		39,395	7,035	11,040	100,433	53,821	172,329	125,916	42,156	379,796	436,919	
State 2-Year Colleges:												
Cameron	2,025	4,090	2,910	5,560	7,623	2,402	18,495	7,311	4,783	34,679	44,460	
Connors	635	191	—	—	1,561	—	1,561	2,379	661	4,792	6,144	
Eastern	1,166	517	—	—	3,911	—	3,911	4,253	1,389	10,070	12,910	
Murray	657	—	—	—	456	—	456	2,941	543	3,940	5,051	
NEOAMC	2,180	4,540	2,250	—	8,695	9,303	20,248	8,057	5,255	38,100	48,846	
NOJC	902	—	—	—	1,899	—	1,899	2,386	686	4,971	6,373	
OMA	996	—	—	—	2,814	—	2,814	3,129	—	5,943	7,619	
All 2-Year Colleges		9,338	5,160	5,560	26,959	11,705	49,384	30,456	13,317	102,495	131,403	
All State Institutions		106,972	94,125	55,680	206,188	126,433	482,426	327,100	81,856	998,354	1,279,942	27,621,148
Private Institutions:												
Tulsa	5,225	4,628	—	—	14,283	—	14,283	25,066	7,036	51,013	65,401	
OCC	1,150	1,561	2,295	—	5,026	—	7,321	7,645	2,644	19,171	24,578	
St Greg	609	—	—	—	3,255	—	3,255	2,316	—	5,571	7,142	
Three Private Institutions		6,189	2,295	—	22,564	—	24,859	35,027	9,680	75,755	97,121	2,095,871
All Institutions		113,161	96,420	55,680	228,752	126,433	507,285	362,127	91,536	1,074,109	1,377,063	29,717,019

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[a] Does not include space used for functions other than educational and general functions as well as space used for organized activities, organized research, and extension and public services. These estimates do not take into consideration space at OU, OSU, CSC, SESC, Cameron, Murray, and NEOAMC that was under construction or that had been approved for construction at the time of this study.

Table 35—Estimated Amount of Additional Assignable Physical Plant Space That Will Be Needed in 21 Oklahoma Colleges and Universities When They Reach the Second Assumed Enrollment Plateau and the Estimated Cost of That Space [a]

(amounts in square feet)

Institution	Assumed FTE Enrollment	Adm. & General	Instruction and Departmental Research: General Classroom	Teaching Laboratory	Faculty Office	Other Instructional Space	Total Instruction	Libraries	Physical Plant Service	Total Assignable Square Feet	Total Gross Square Feet (a.s.f. ÷ .78)	Cost (g.s.f. x $23.60)
State Universities:												
OU	25,825	32,040	64,560	53,400	44,856	138,393	301,209	90,568	----	423,817	543,355	
OSU	21,578	26,770	49,935	52,400	37,478	118,841	258,654	72,228	57,224	414,876	531,892	
Both Universities		58,810	114,495	105,800	82,334	257,234	559,863	162,796	57,224	838,693	1,075,247	
State 4-Year Colleges:												
CSC	10,951	13,585	22,110	14,720	19,019	47,472	103,321	35,370	24,364	176,640	226,462	
ECSC	3,820	4,740	----	----	6,636	----	6,636	12,344	----	23,720	30,410	
NESC	7,251	8,995	14,445	----	12,593	22,983	50,021	23,432	13,191	95,639	122,614	
NWSC	2,139	2,489	----	----	3,717	----	3,717	7,141	2,135	15,482	19,849	
SESC	2,942	3,650	----	----	5,110	----	5,110	9,723	2,957	21,440	27,487	
SWSC	5,094	6,320	13,110	----	8,848	17,852	39,810	16,521	10,024	72,675	93,173	
OCW	1,197	----	----	----	322	----	322	9	----	331	424	
PAMC	1,737	2,155	----	----	3,017	----	3,017	5,874	1,768	12,814	16,428	
LU	1,383	----	----	----	2,401	----	2,401	4,296	----	6,697	8,586	
All 4-Year Colleges		41,934	49,665	14,720	61,663	88,307	214,355	114,710	54,439	425,438	545,433	
State 2-Year Colleges:												
Cameron	2,693	3,340	5,340	9,040	4,676	16,198	35,254	6,113	7,153	51,860	66,487	
Connors	845	1,050	----	----	1,470	----	1,470	2,435	792	5,747	7,368	
Eastern	1,551	1,925	----	----	2,695	----	2,695	3,810	1,349	9,779	12,537	
Murray	874	383	----	----	1,519	----	1,519	2,529	709	5,140	6,590	
NEOAMC	2,900	3,600	6,990	680	5,040	10,803	23,513	6,545	5,385	39,043	50,055	
NOJC	1,200	594	----	----	2,086	----	2,086	3,122	928	6,730	8,628	
OMA	1,325	----	----	2,800	2,303	----	5,103	3,372	----	8,475	10,865	
All 2-Year Colleges		10,892	12,330	12,520	19,789	27,001	71,640	27,926	16,316	126,774	162,530	
All State Institutions		111,636	176,490	133,040	163,786	372,542	845,858	305,432	127,979	1,390,905	1,783,210	42,083,756
Private Institutions:												
Tulsa	6,530	6,525	7,650	----	9,135	----	16,785	22,366	7,308	52,984	67,928	
OCC	1,610	2,300	3,540	1,760	3,220	5,212	13,732	5,990	3,524	25,546	32,751	
St Greg	679	----	----	----	490	----	490	1,373	----	1,863	2,388	
Three Private Institutions		8,825	11,190	1,760	12,845	5,212	31,007	29,729	10,832	80,393	103,067	2,432,381
All Institutions		120,461	187,680	134,800	176,631	377,754	876,865	335,161	138,811	1,471,298	1,886,277	44,516,137

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[a] Does not include space used for functions other than educational and general functions as well as space used for organized activities, organized research, and extension and public services. These estimates do not take into consideration space at OU, OSU, CSC, SESC, Cameron, Murray, and NEOAMC that was under construction or that had been approved for construction at the time of this study.

It should be emphasized again that an excessive amount of space at a given time is not necessarily an indication of poor planning. In fact, it quite often is the result of wise and prudent planning. Institutions should plan for the future wherever possible rather than the present, and planning for the future under today's conditions suggests the necessity of building more space than is needed at the present time. It is fortunate that Oklahoma several years ago saw the approaching "rising tide" of enrollments and built physical plant space to house the additional students. As a result, Oklahoma is very likely in better shape than many states with respect to the adequacy of college physical plants to meet the demands of the several years ahead.

Summary of Estimates of Physical Plant Space Costs

Estimates have been presented in this report relative to the cost of needed major maintenance and alternations, replacement of existing space, and additional space at the present time and at designated points in the future. These cost estimates appear in several different places in the report, however, and it appears advisable to pull all of them together in one place in the form of a summary. Also, it appears advisable to take into consideration in the summary the additional space that has been built since the space inventory and the funds that institutions have available at the present time to help meet their space needs.

The following listing shows the number of gross square feet of space that have been completed since the time of the space inventory.

OU	329,958 g.s.f.
OSU	323,303 g.s.f.
CSC	67,704 g.s.f.
SESC	29,968 g.s.f.
Cameron	41,830 g.s.f.
Murray	21,749 g.s.f.

In addition, two institutions have (as of October, 1964) significant amounts of money on hand at the present time with which to help meet future space needs. NEOAMC has $787,520 and OSU has $2,279,590. These two sums represent the unspent portions of funds allocated to those two institutions from the 1960 state bond issue. A few other institutions have on hand at the present time monies that have accumulated in the Section 13 and New College Funds (for capital purposes). However, the amounts are rather insignificant and no attempt has been made to adjust the data in this section to allow for them.

Table 36 was designed to summarize building cost estimates. The columns headed by "Before Adjustments" show the estimates as they have appeared earlier in this report. The columns headed by "After Adjustments" show the same figures adjusted for space that has been built since the space inventory and adjusted for capital funds on hand.

In making the adjustments, the assumption has been made that available capital funds will be used first for major maintenance and alterations, second for needed replacement of existing space, and third for building additional space. Also, it has been assumed that the space completed since the time of the space inventory is in accordance with space needs as they were estimated to exist. Under the latter assumption, all of the space that has been built since the time of the inventory counts toward reducing the overall space needs.

Considering the data in Table 36 "After Adjustments" and converting gross square feet to dollars, it is estimated that the following physical plant needs will exist in the 18 institutions of the State System by about 1975:

Major Maintenance and Alterations	$ 3,389,800
Replacement of Existing Space (980,945 g.s.f. at $19.74)	19,363,854
Additional Space Needed Now (178,800 g.s.f. at $19.74)	3,529,512
Additional Space Needed at First Plateau (673,890 g.s.f. at $21.58)	14,542,546
Additional Space Needed at Second Plateau (1,773,824 g.s.f. at $23.60)	41,862,246
Total	$82,687,958

Thus, it is estimated that $3,389,800 is currently needed in the state institutions for major maintenance and alterations. An additional $19,363,854 is currently needed by the state institutions for replacement of unsatisfactory space and $3,529,512 is needed now for additional space. Therefore, it is estimated that the state needs to spend $26,283,166 at the present time to provide for adequate physical plants in the 18 colleges and universities, and this does not include any needs that exist for research and extension space as well as needs that exist in the other constituent agencies of the State System.

Table 36—Summary of Estimates of (1) Costs to Provide for Needed Major Maintenance and Alterations, (2) Gross Square Feet of Existing Space That Should Be Replaced, and (3) Gross Square Feet of Space Needed Now and at Designated Points in the Future in 21 Oklahoma Colleges and Universities (amounts in 1st and 6th columns in dollars—others in gross square feet)

Institution	Before Adjustments					After Adjustments[a]				
	Major Maintenance and Alterations (In dollars—from Part II)	Replacement of Existing Space (In g.s.f.—from Part II)	Additional Space Needed Now (In g.s.f.)	Additional Space Needed at First Plateau (In g.s.f.)	Additional Space Needed at Second Plateau (In g.s.f.)	Major Maintenance and Alterations (In dollars)	Replacement of Existing Space (In g.s.f.)	Additional Space Needed Now (In g.s.f.)	Additional Space Needed at First Plateau (In g.s.f.)	Additional Space Needed at Second Plateau (In g.s.f.)
State Universities:										
OU	1,417,800	389,922	11,428	416,394	543,355	1,417,800	389,922	----	97,864	543,355
OSU	818,600	421,943	75,281	245,226	531,892	----	347,931	----	----	529,096
Both Universities	2,236,400	811,865	86,709	661,620	1,075,247	1,417,800	737,853	----	97,864	1,072,451
State 4-Year Colleges:										
CSC	260,900	66,736	75,405	229,800	226,462	260,900	66,736	7,701	229,800	226,462
ECSC	85,000	7,062	4,024	31,876	30,410	85,000	7,062	4,024	31,876	30,410
NESC	584,000	6,540	41,724	106,453	122,614	584,000	6,540	41,724	106,453	122,614
NWSC	115,000	----	15,079	13,972	19,849	115,000	----	15,079	13,972	19,849
SESC	308,000	6,616	14,174	27,319	27,487	308,000	6,616	----	11,525	27,487
SWSC	150,000	7,360	41,408	65,299	93,173	150,000	7,360	41,408	65,299	93,173
OCW	----	7,260	----	----	424	----	7,260	----	----	424
PAMC	4,000	21,020	16,419	11,922	16,428	4,000	21,020	16,419	11,922	16,428
LU	233,000	68,744	----	278	8,586	233,000	68,744	----	278	8,586
All 4-Year Colleges	1,739,900	191,338	208,233	486,919	545,433	1,739,900	191,338	126,355	471,125	545,433
State 2-Year Colleges:										
Cameron	----	27,124	20,379	44,460	66,487	----	27,124	----	23,009	66,487
Conners	126,500	17,202	3,078	6,144	7,368	126,500	17,202	3,078	6,144	7,368
Eastern	21,200	4,210	18,571	12,910	12,537	21,200	4,210	18,571	12,910	12,537
Murray	17,000	----	2,540	5,051	6,590	17,000	----	----	----	----
NEOAMC	150,000	25,365	27,320	48,846	50,055	----	----	20,389	48,846	50,055
NOJC	42,000	3,218	4,856	6,373	8,628	42,000	3,218	4,856	6,373	8,628
OMA	25,400	----	5,551	7,619	10,865	25,400	----	5,551	7,619	10,865
All 2-Year Colleges	382,100	77,119	82,295	131,403	162,530	232,100	51,754	52,445	104,901	155,940
All State Institutions	4,358,400	1,080,322	377,237	1,279,942	1,783,210	3,389,800	980,945	178,800	673,890	1,773,824
Private Institutions:										
Tulsa	212,000	70,836	48,621	65,401	67,928	212,000	70,836	48,621	65,401	67,928
OCC	----	----	11,235	24,578	32,751	----	----	11,235	24,578	32,751
St Greg	----[b]	----	2,746	7,142	2,388	----[b]	----	2,746	7,142	2,388
Three Private Institutions	212,000	70,836	62,602	97,121	103,067	212,000	70,836	62,602	97,121	103,067
All Institutions	4,570,400	1,151,158	439,839	1,377,063	1,886,277	3,601,800	1,051,781	241,402	771,011	1,876,891

[a] Adjustments are made for OU, OSU, CSC, SESC, Cameron, Murray, and NEOAMC as a result of space being built since the space inventory was made and as a result of funds being available for construction.

[b] Significant "Major Maintenance and Alterations" needs exist at St. Gregory's. However, plans had not advanced sufficiently to enable valid cost estimates to be made.

It is estimated that the state institutions will need another $14,542,546 for additional space by about 1970 and $41,862,246 by about 1975. This would result in a total additional need in the amount of $82,687,958 from now until the year 1975 for educational and general space at the 18 campuses.

It is estimated that Tulsa needs to spend $2,570,082 on physical plant space now and another $3,014,455 by 1975—a total of $5,584,537. OCC needs to spend an estimated $1,525,096 by 1975 and St. Gregory's needs to spend $264,687. However, the latter figure does not include an estimate of the cost of major maintenance and alterations that need to be made at St. Gregory's.

It should be kept in mind that, in order to have space available when it is needed, a certain amount of "lead time" must be allowed for proper necessary planning and implementation processes. This time might run anywhere from two to five years. Thus, plans should begin immediately for space that will be needed in 1970.

Part VI—Findings, Conclusions, and Recommendations

The provision of adequate physical plant space for higher education is one of the more difficult problems facing higher education today. Rising enrollments, expanding knowledge, changing programs, improvements in teaching methods—these and many other factors continuously bring about changing demands and new problems with respect to physical plant space. Unless a building is sufficiently flexible to enable the space to be modified to meet these changes, it can become educationally obsolete in a matter of eight or ten years, even though structurally it may last a century.

Not only are the demands for the kinds of physical plant space constantly changing, but costs for construction, maintenance, and operation continue to rise. In the last two decades, building costs have risen close to an average of two per cent each year. A college building that cost $200,000 in 1944 would cost about $300,000 today. With each passing year, the financing of capital construction becomes more costly.

Funds to finance needed renovation, remodeling, and new construction will not be had just for the asking. With pressures mounting on all fronts for the taxpayer's dollar, colleges and universities must be prepared to show that they are making the best possible use of existing physical plant resources. Likewise, they must be willing and able to demonstrate that intelligent planning has preceded their requests, and that such new funds as the people make available will be used to meet the most critical needs. Obviously, those charged with this planning function must be furnished with facts about their physical plant space—the amount currently available, its general condition and usefulness, how well it is being utilized, and how well it fits current and future needs.

The purpose of this report was to compile and analyze information that will be helpful to institutional officials, governing boards, the State Regents, and others responsible for higher education planning, as they seek to ascertain the future building needs of Oklahoma higher education. Obviously, if the report is to fulfill this purpose, it must point up existing weaknesses, call attention to practices that will lead to better use of space, and offer suggestions for better planning. Inevitably, therefore, parts of the report will be critical; little useful purpose would be served if they were not. It should, however, be kept in mind that monies made available in the past for college construction have generally been well spent, and that those responsible for providing physical plant space have attempted to meet the most urgent and immediate needs.

FINDINGS AND CONCLUSIONS

Land and Buildings

1. With the exception of three or four institutions, colleges and universities that participated in this study have sufficient campus land to meet anticipated academic and residential expansion in the next decade. All 21 institutions have a total of 41,816.5 acres of land, 5,658.5 acres of which comprise the main campuses or are contiguous thereto.
2. There were a total of 785 academic buildings in the 21 participating institutions. These buildings contained a total of 9,593,430 gross square feet of space. Of that space, 21.5 per

cent was less than 10 years of age at the time of the survey, 62.9 per cent was between 10 and 40 years of age, and 15.6 per cent was over 40 years of age.

3. Of the space in the 21 participating institutions, 91.5 per cent was classified as being of permanent construction and 8.5 per cent was classified as being of temporary construction.

4. Of the total space, 77.7 per cent was found to be fire-resistive and 22.3 per cent was non-fire-resistive.

5. Of the total space, 25.5 per cent was rated as excellent, 50.1 per cent as satisfactory, 16.1 per cent as poor, and 8.3 per cent as unsatisfactory.

6. Approximately two-thirds of the space can be continued in use indefinitely with normal maintenance and minor alterations. Approximately one-fifth of the space needs major remodeling or alteration to restore it to a satisfactory condition, and about one-eighth should be razed.

7. It is estimated that it will cost $4,757,600 to accomplish the major maintenance and major alterations needs of the 18 colleges and universities in the State System. Of this amount, 91.6 per cent would come from state appropriations and 8.4 per cent from other sources.

8. There was a total of 5,693,319 outside gross square feet of space in housing units owned by the 21 participating colleges and universities. Of this space, only 4.9 per cent was found to require major maintenance and another 2.5 per cent required major alterations to be considered satisfactory. Approximately one-fifth of the housing space was classified as "abandon and replace."

9. For the most part, institutional campus planning was found to be extremely limited in scope. Only two institutions exhibited written "master" plans that appeared to have been carefully developed and which projected future building needs, provided for their "functional" location in relation to other buildings and institutional functions, and identified future building priorities.

10. Several instances were noted where buildings are deteriorating rapidly and, unless immediate steps are taken to meet current deferred maintenance needs, the state will lose the use of these buildings which, with proper maintenance, will have many additional years of useful life. In addition to major maintenance needs, every institution could well direct more attention toward improving its day-to-day maintenance program.

11. Almost without exception, institutions lack adequate lighting in classrooms and laboratories. Each campus could profit from a complete and detailed lighting survey as a first step to the improvement of the quality and quantity of school lighting.

12. The special consultant and survey team were greatly impressed with the ingenuity and imagination exhibited on several campuses in remodeling and renovating space in old buildings to keep it functional.

Rooms and Room Use

1. The inventory of assignable space yielded a room count of 16,091 and a square foot count of 7,489,479. Of that space, 10.9 per cent was being used for classrooms, 10.3 per cent for laboratories, 7.5 per cent for other instructional space, 7.9 per cent for teaching service space, 4.2 per cent for faculty offices, 7.2 per cent for libraries, 10.6 per cent for physical plant service, 10.6 per cent for non-academic and recreational purposes, and the remainder for other miscellaneous uses.

2. The total amount of assignable space per FTE student ranged from a low of 60.3 square feet at CSC to a high of 345.6 square feet at OCW. The private institutions as a group had the least amount of space per student with 105.5 square feet, followed by the state four-year institutions with 127.7 square feet, the state universities with 165.2 square feet, and the state two-year colleges with 183.4 square feet.

3. The 7,489,479 assignable square feet of space that was inventoried was being used 3.6 per cent for administration, 45.2 per cent for instruction, 4.9 per cent for organized activities, 6.4 per cent for organized research, 2.7 per cent for extension and public services, 7.4 per cent for libraries, 13.7 per cent for physical plant service, and 16.1 per cent for non-academic purposes.

4. The range in the amount of space per FTE student being used for educational and general purposes was from a low of 54.1 assignable square feet at CSC to a high of 297.6 square feet at Murray. The private institutions as a group had the least amount of educational and general space per student with 90 square feet, the state four-year colleges had 109.8 square feet, the state universities had 134.9 square feet, and the state two-year colleges had the most space with 161.1 square feet.

5. There were 1,896 faculty offices in the 21 institutions. Approximately 80 per cent of the offices housed one faculty member each while approximately 20 per cent housed two or more. The average amount of space per station in faculty offices of all 21 institutions was 129.7 square feet.

6. There were 1,053 classrooms inventoried in the study. The average size of classroom for all institutions was 735.9 square feet. The private institutions as a group had the largest classrooms, followed by the state universities, the state four-year colleges, and the state two-year colleges, in that order.

7. There were 52,440 actual stations in the classrooms and an average number of feet per actual station of 14.8. The range among institutions was from a low of 12.3 square feet at NESC to a high of 24.3 square feet at OMA.

8. There were 51,249 optimum stations in the classrooms of all 21 institutions participating in the study and an average number of square feet per optimum station of 15.1.

9. There were 717 teaching laboratories in the 21 institutions with an average size of 1,044.3 square feet. There were 19,665 actual stations in those laboratories and an average number of square feet per actual station of 38.1. There were 18,471 optimum stations with an average number of square feet per optimum station of 40.5.

10. Assuming a 44-hour week, the state universities used their classrooms 58.6 per cent of the time during the fall semester of 1963, the private institutions used their classrooms 47 per cent of the time, the state two-year colleges 38.1 per cent of the time, and the state four-year colleges 35.9 per cent.

11. Also assuming a 44-hour week, the state universities showed a 38.9 per cent classroom student-station utilization while the private institutions showed a 28.6 per cent utilization, the state four-year colleges showed a 21.4 per cent utilization, and the state two-year colleges showed a 20.2 per cent utilization.

12. The state universities used their teaching laboratories 39.5 per cent of the time, the state two-year colleges used their laboratories 32.7 per cent of the time, the state four-year colleges 26.3 per cent of the time, and the private institutions 26 per cent.

13. Considering teaching laboratory student-station utilization, the state universities used their stations 32.7 per cent of the time, the private institutions 20.9 per cent, the state two-year colleges 18.8 per cent, and the state four-year colleges 17 per cent.

14. In relation to current enrollments and to those anticipated in the next several years, there is no general or widespread shortage of classrooms and laboratories in Oklahoma colleges.

15. Generally, when compared with institutions in other states where utilization studies have been made, Oklahoma's colleges and universities do not compare well with respect to the degree of utilization of general classrooms and teaching laboratories.

16. Because of greatly increased enrollments, a shortage of qualified college faculty members, and the great amount of time that one must spend in college preparing for some occupations, there is a trend across the country today in colleges moving to a more complete year-round operation.

Additional Physical Plant Needs

1. After adjusting the data for space built since the time of the inventory and for funds that are now available for capital construction, it is estimated that the 18 colleges and universities in the State System need an additional $3,389,800 for major maintenance and alterations. Another $19,363,854 is estimated to be needed for replacement of unsatisfactory space, and $3,529,512 is currently needed for additional administration, faculty office,

"other" instructional, library, and physical plant service space. Thus, it is estimated that the state needs to spend $26,283,166 at the present time to provide adequate physical plants in the 18 colleges and universities—and this does not include needs for movable equipment, non-structural improvements, research and extension space, or needs of the other constituent agencies.

2. It is estimated that the state institutions will need to spend another $14,542,546 for additional space by about 1970 and an additional $41,862,246 by about 1975. This would result in a total expenditure of $82,687,958 from now until the year 1975.

RECOMMENDATIONS

1. **It is recommended that the Legislature and the people of Oklahoma authorize a state bond issue for college construction sufficient to meet the needs of The Oklahoma State System of Higher Education as projected to the year 1970.[19] For the 18 colleges and universities in the State System, construction needs projected to 1970 total $40,825,712.[20]**
2. **It is further recommended that the following order of priority guide the State Regents in allocating these funds to institutions in the State System.**
   - a. **To meet current deferred maintenance and alteration needs, thereby restoring existing physical plant space classified as poor and unsatisfactory to a satisfactory condition.**
   - b. **To replace unsatisfactory space which this report recommends be abandoned and replaced.**
   - c. **To provide "catch up" space which is pointed out in this report as being needed.**
   - d. **To provide additional new space estimated to be required to provide for enrollment increases projected to occur by 1970.**
3. **It is recommended that the State Regents develop a "capital budget program" for submission to the 1967 Oklahoma Legislature (and biennially thereafter) which, with such federal funds as may be available, will enable the state to move toward the construction of physical plant space needed by 1975, and thereafter, on a "pay-as-you-go" basis.**

Oklahoma state colleges and universities face a difficult problem during the next decade in providing the needed physical plant space to accommodate rapidly expanding higher education enrollments. There currently exists a "back log" need of $3,389,800 for major deferred maintenance and alterations, $19,363,854 for replacement of unsatisfactory space, and $3,529,512 for additional space needs. These amounts (totaling $26,283,166) are needed to provide currently existing physical plant needs. In addition, state institutions will need $14,542,546 for additional space by about 1970.

Assuming the physical plant needs projected to 1970 are met, it is estimated that an additional $41,862,246 will be needed to accommodate enrollments projected for about 1975. It is recommended that the state, beginning in 1967, finance college construction on a "pay-as-you-go" basis. The State Regents should submit a biennial "capital budget program" to the Oklahoma Legislature, just as it now submits a biennial budget for current operating needs. It is estimated that an appropriation of approximately $10 million in each of the biennial periods, 1967-69, 1969-71, and 1971-73, when matched with probable federal funds, will enable Oklahoma to meet its building requirements between 1970 and 1975.

By moving to a "pay-as-you-go" basis for capital construction, the institutions will not only gain the lead time needed to plan for and construct required space, but the state will be saved many millions of dollars that otherwise will be paid out in interest charges if college construction continues to be financed by state bond issues.

4. **It is recommended that each institution immediately develop and periodically update a master plan for long-range campus development. Such a master plan should project current and future physical plant needs, provide for the "functional" location**

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[19] There is estimated to be available $10-14 million of funds from Federal and other sources for State System institutions to 1970.

[20] This figure *does not* include: (a) funds needed for construction at any of the 7 other constituent agencies projected to 1970, (b) capital funds needed for furniture and other movable equipment projected to 1970, (c) capital funds needed for non-structural improvements in the State System to 1970, or (d) funds needed for research and extension space to 1970.

of new space in relation to existing buildings, and identify building priorities. This plan should serve as a guide for implementing results of the physical plant survey of needs of each institution.

During the course of this study it was learned that only two institutions that participated in the study have developed comprehensive master plans that project future building needs, provide for their "functional" location in relation to other buildings and institutional functions, and identify future building priorities. Generally, plans at other campuses were found to be quite limited in scope, consisting primarily of informal sketches of the campus with little or no basis in a thorough institutional study. The lack of long-range planning is evidenced on most campuses by periodic changes in architectural emphasis, buildings being located in non-functional locations, and poor campus traffic patterns.

It is recognized that present methods of financing physical facilities at the state institutions in Oklahoma do not encourage long-range planning. However, if institutions are to be able to make the best possible use of capital funds as they become available, there must be appropriate long-range capital planning.

5. **It is recommended that the State Regents more adequately fulfill its coordinating responsibilities with respect to physical plant planning and capital budgeting, and that it work cooperatively with each institution in the State System in developing comprehensive, long-range campus plans. It is further recommended that future allocations of capital funds be based on such planning, with funds allocated where the greatest needs exist.**

That the present study is the first comprehensive system-wide study of physical plant needs since the organization of the State System attests to the need to more adequately fulfill coordinating leadership responsibilities at the state level in this area of responsibility. Poor central coordination and leadership has tended to discourage administrative interest in the development of long-range planning, and has handicapped the State Regents in the establishment of sound policies with respect to the allocation of funds for capital construction. In the absence of complete information about institutional facilities and utilization of physical plant resources, it has been difficult for the State Regents to make the wisest possible decisions in this area of coordinating responsibility.

6. **It is recommended that periodic space studies be made by the State Regents and that such data be a basic consideration in the allocation of capital outlay funds for the construction of new academic space.**

The Legislature and the citizens of Oklahoma quite properly insist that the State Regents document good utilization of existing space when requesting additional funds for new construction. Any capital budget program that is submitted to the Legislature should clearly set forth utilization levels expected of institutions in the State System, priorities of needs, and guidelines to be used in determining the relative capital needs of individual institutions. Such standards and guidelines should be reviewed and up-dated periodically.

To aid in securing better scheduling of classes, institutions should continue the present practice of central assignment of classes to rooms. When control over room assignment is decentralized, a lower utilization almost invariably results.

Institutional faculties and administrations should give careful study to improving current scheduling practices so as to improve classroom and teaching laboratory utilization. Much can be done to make better use of such space by lengthening the school day, by more even scheduling of classes throughout the day, by scheduling Saturday classes, and by better matching of classes and rooms.

7. **It is recommended that a high priority be given the construction of additional needed library space when funds become available for new construction.**

The people of Oklahoma are fortunate in that institutional and other state officials have generally made wise use of available capital outlay resources in the past decade by giving primary emphasis to the construction and renovation of classroom and laboratory space. As a result, most Oklahoma institutions participating in the physical plant study are in the enviable position of now having sufficient instructional space to accommodate the additional enrollments of the next several years. Utilization rates are undesirably low at the present time, but this will change rapidly in the next two or three years. With careful administrative planning, most institutions will be able to provide for enrollment increases with only modest expenditures for classroom and laboratory space.

However, this favorable position with respect to classroom and laboratory space has not been achieved without substantial sacrifice in other areas. Oklahoma institutions participating in this study are currently short 323,850 assignable square feet of academic space other than classrooms and laboratories, 60 per cent of which is needed library space. The library is perhaps the single most important resource the teacher has in maintaining high quality instruction, and unless steps are taken to remedy this deficiency it could be particularly detrimental to the instructional program.

8. **It is recommended that greater attention be directed toward better structural design in future college buildings and that competent, continuous inspection be given throughout the construction period to make certain that structural adequacy is achieved.**

Inadequacies of structural design in college buildings rarely result in a complete building collapse. Nevertheless, many cracks and structural faults were observed in existing buildings which not only constitute a potential safety hazard, but also contribute to the problem and cost of building maintenance. The numerous buildings with cracks and leaning walls resulting from inadequate foundations and improper or insufficient tying of structural members (even in relatively new construction) is evidence of the need for better structural design. Sagging roofs, buckled beams, and tie rods installed after construction supply additional evidence of structural inadequacies.

Soil conditions in some localities of Oklahoma create difficult problems with respect to achieving structural adequacy. However, properly designed and constructed buildings should be able to withstand vertical and lateral forces such as are imposed by winds, live loads, and foundation settling. Likewise, good building maintenance will forestall structural problems through the immediate repair of cracks, roofs, and deteriorating mortar which, if left unrepaired, will permit water to permeate the structure. A number of instances were noted in which structural problems had resulted because of the failure to repair downspouts or to provide for appropriate water drainage.

In future planning, institutional officials should give primary consideration to sound structural design even though it may mean that less space will be constructed than is needed. Attempting to obtain too much space with the money available will, in the long run, reflect to the detriment of the state. Institutions should seek to obtain the best architectural and engineering assistance that is available and should make certain that competent supervision is given throughout the construction period to insure that the greatest value will be received from the state's investment in buildings.

9. **It is recommended that each institution make a thorough study of the light and color conditions in each building on the campus, particularly in classrooms, teaching laboratories, and offices. A planned program of improvement should be developed to remedy inadequate visual conditions, and high priority should be assigned this project in the administration of the institution's physical plant improvement program.**

Good lighting is important in the educational progress of students and in the efficient conduct of office activities. Poorly lighted rooms increase eye strain and contribute to fatigue and physical disorders. The psychological effect of brightness and cheer that comes with improved lighting contributes substantially to the efficiency with which students learn and institutional personnel perform their work tasks.

A general criticism leveled at all campuses was the apparent inadequate attention to proper lighting in classrooms, teaching laboratories, and offices. Dark woodwork and floor coverings, poor color schemes, and inadequate lighting frequently produced somber interiors that are depressing to students and faculty alike. Numerous instances were noted where small amounts invested in redecoration would greatly contribute to the attractiveness and usefulness of space rated as poor or unsatisfactory.

It cannot be overemphasized that "improved lighting" does not consist merely of raising the intensity of the light. Equally important are the elimination of glare, the lightening of dark surfaces, and other similar adjustments. Merely adding more footcandles without correcting other deficiencies may actually deter rather than facilitate the performance of visual tasks.

10. **It is recommended that each institution in the State System maintain an up-to-date inventory of each room and each building on the campus. Such inventory record should include information as the construction date and cost, square feet of assignable space, primary use, and other**

information essential to periodic utilization studies. The inventory should also include the equipment owned by the institution.

Basic to the development of any long-range capital construction program and projection of future building requirements is the need to know the amount and general condition of existing educational facilities. Until the existing condition and quality of buildings is properly ascertained, there can be no assurance that the wisest possible use is being made of available resources. Good planning recognizes not only the practical necessity, but also the wisdom of maximizing the use of existing physical plant space before embarking upon an expanded capital construction program. Without accurate, up-to-date building inventory data it is not possible to develop sound, long-range capital construction programs.

During the course of the inventory of rooms and buildings accomplished as a part of this study, it was not uncommon to hear institutional officials express surprise at the discovery of physical plant space they did not know was available for use. In at least two instances, buildings were found that were not recorded on inventory records. Conversely, some institutions maintained records of buildings that long ago had been abandoned and destroyed. Without an up-to-date inventory, it is not possible to make the best use of existing physical plant resources.

Each institution should maintain an inventory record for every room and every building which contains pertinent information about the room or building. Also, a procedure should be established whereby appropriate changes are made on the inventory record whenever changes are made in the rooms or buildings. In this way, a perpetual inventory will be maintained in a relatively easy and simple manner. Those institutions that have access to data processing equipment may find it expedient to program the inventory records for machine processing.

11. **It is recommended that Oklahoma move toward a more complete year-round operation of its colleges and universities.**

Higher education facilities in Oklahoma represent a large and growing investment for the state. It is imperative that the greatest possible return be obtained from that investment. Not only should institutions seek to secure a greater utilization during the weeks that school is in session but also efforts should be made to institute a longer operating year. This might be done through a variety of ways such as (a) lengthening the summer session, (b) adding another summer session, or (c) through instituting a trimester or four-quarter plan.

The problem of optimum use of physical facilities of a college or a university is exceedingly complex and technical. There is no simple and easy answer to the question. Nor can an intelligent judgment be made about the relative merits of any plan for year-round use of facilities until a plan is developed and related to specific institutions.

The Oklahoma colleges and universities participating in this study currently have relatively low utilization rates for classrooms and laboratories and are in a fairly good position to meet the anticipated enrollment growth in the next few years. However, it is exceedingly important that this time be utilized to work toward a solution to better space utilization for all segments of public higher education in Oklahoma. Then, as institutions approach maximum utilization within existing scheduling practices, an orderly transition can be made to full-year use of facilities.

12. **It is recommended that institutions give immediate attention to improving the housekeeping and custodial program on the campus, particularly in college dormitories.**

The poor housekeeping practices and low quality of custodial care currently in evidence on some campuses participating in the physical plant survey were appalling. With few exceptions, dormitory housekeeping programs were very poor.

There can be little doubt but that a student's physical surroundings influence the extent of learning that takes place, the personal habits a student develops, his attitudes, and his conduct. For many boys and girls the college environment establishes their ideal of living standards as well as their attitudes toward housekeeping practices. A dingy, dirty, depressing dormitory, in which students may spend up to one-third of their time, mitigates faculty efforts in the classroom to raise cultural aspirations and expectancies. A major purpose of education is to teach boys and girls to want the better things in life and to help them, insofar as possible, by developing the necessary skills and attitudes to satisfy those wants. Unattractive and unsanitary physical surroundings not only discourage effective learning, but they likewise discourage good teaching.

The housekeeping program is one area in which substantial improvement can be made without awaiting the receipt of substantial amounts of money. It should be a cooperative enterprise in which all members of the campus participate to some extent, and an important first step is to make all individuals and groups conscious of the desirability of improving the quality of housekeeping and building maintenance. The basic responsibility, however, rests with the administration to develop these attitudes and habits, and to organize a system which will focus continuing attention on this problem.

13. **It is recommended that institutions provide private offices for all full-time faculty.**

Although institutions in Oklahoma have generally done well with respect to providing adequate office space for their faculty, most institutions need to devote some attention to this area. At the time of this study, 20.8 per cent of the full-time faculty shared offices with two, three, or even more people. Several institutions did not have offices available for some of their faculty.

There are several reasons why faculty members need private offices. They need privacy for research and study, writing, classroom preparation, and student conferences. The investment that colleges and universities make in their faculties is mammoth and will become even greater in the years ahead. It therefore is imperative that institutions do everything possible to provide the physical facilities that will result in the greatest return from that investment.

14. **It is recommended that future state-wide studies be made of capital items not included in this study. Such items as equipment, utility service facilities, streets, tennis courts, and other non-structural facilities should be evaluated in terms of their adequacy.**

A great many relatively expensive capital items are quite often overlooked or inadequately provided for when funds are allocated. As a result, many institutions have very poor streets, antiquated equipment, worn-out utility lines, and inadequate environmental control systems. Adequate financing of future capital needs must include funds for additional equipment and non-structural improvements as well as replacement of a great many of such facilities that already are in existence.

15. **It is recommended that those institutions which share in the distribution of Section 13 and New College Funds carefully plan and budget these capital funds on a fiscal year basis. It is further recommended that the institutions not now sharing in these revenues be provided a commensurate amount of funds through a biennial budget program.**

Ten of the eighteen colleges and universities in the State System share in the distribution of certain school land earnings commonly called "Section 13 and New College Funds." In 1963-64, the total income to these ten institutions from such funds amounted to $1,085,986. The eight institutions that do not participate in the distribution of these funds are disadvantaged in that they must await the approval of periodic bond issues before obtaining any state funds that may be used for capital improvements.

Institutional practices vary with respect to the budgeting and expenditure of Section 13 and New College Funds, but typically, as cash accumulates in the State Treasury, the State Regents allocate the funds piecemeal to accomplish a variety of minor capital improvement projects. A policy of estimating collections in advance and planning substantial capital improvement projects on a fiscal year basis would lead to better planning and, as a result, greater accomplishment in meeting capital improvement needs at institutions. The State Regents should provide the leadership for establishment of procedures whereby institutions may plan and budget these funds on a fiscal year basis.

16. **It is recommended that high priority be given the development of a new water supply for Langston University from such funds as may be made available to that institution to meet capital outlay needs.**

While the inventory of physical plant needs did not encompass such items as water supply, a particularly critical problem was noted at one institution which should be brought to the attention of the State Regents. The current water supply at Langston University is critically inadequate, both in amount and quality, for the needs of that campus. The water contains an undesirably high amount of incrusting solids which rapidly forms inside water lines, thus necessitating a program of continuous replacement. This replacement program continuously drains capital outlay funds that are badly needed for building maintenance, remodeling, and renovation, and until an adequate water supply is made available the state will continue to fund a needless drain on its resources.

17. **It is recommended that a contingency reserve fund for capital construction in the amount of $2,500,000 be made available, in addition to the amount previously recommended as necessary for capital outlay needs, to meet specific physical plant deficiencies which may not be adequately recognized in this study of gross physical plant needs.**

In general, the physical plant requirements as reflected in this study accurately reflect the gross capital outlay needs of the colleges and universities participating in the study. It is recognized, however, that enrollment projections are conservative, and enrollments at some institutions may exceed the figures used in this study to project individual physical plant requirements. In such instances, institutions will require space in addition to that projected herein.

A further limitation, recognized early in this report, is that projections of gross physical plant space may not adequately recognize specific physical plant deficiencies on some campuses. An institution may have sufficient gross space, but the space may not be properly located or be functionally useful to meet specific deficiencies. For these reasons, a contingency reserve for capital outlay in the amount of approximately three per cent of total projected needs should be added to the physical plant requirements projected in this report, to meet such unforeseen space requirements.

APPENDIX A

FORMS USED IN THIS STUDY

OKLAHOMA STATE REGENTS FOR HIGHER EDUCATION
State Capitol, Oklahoma City

SELF-STUDY OF HIGHER EDUCATION IN OKLAHOMA

Inventory of Land Holdings
(Form 6-1)

Institution______________________________ Completed by________________________

1. Ownership of Land	No. of Acres
a. In Fee Simple (Unrestricted rights of disposition)	__________
b. Restricted Rights of Use and/or Disposition	__________
c. Leased	__________
d. Loaned to Institution	__________
e. Other (specify) ____________________ . .	__________
____________________________ . .	__________
____________________________ . .	__________
TOTAL ACRES	__________
2. Location of Land	
a. Main Campus (include all contiguous land)	__________
b. One Mile Radius of Main Campus	__________
c. More than One Mile Radius of Main Campus	__________
TOTAL ACRES	__________

OKLAHOMA STATE REGENTS FOR HIGHER EDUCATION
State Capitol, Oklahoma City

SELF-STUDY OF HIGHER EDUCATION IN OKLAHOMA

Room Inventory
(Form 6-2)

(Complete one form for each room, except in housing units)

Institution ______________________ Completed by ______________

Name of Building __________ Room Number __________ Object Code __________ Functional Code __________ Assignable Square Ft. __________

No. Actual Stations __________ Assignable Sq.Ft. per Actual Station __________ Assigned to a Dept. ( ) Yes ( ) No

Principal Use of Room ______________ Other Room Uses ______________

Remarks:

(NOTE: Institutional officers should not complete the following items.
The qualitative appraisal will be made by a visitation team).

No. Optimum Stations ______________ Assignable Sq.Ft. per Optimum Station ______________

Specific Deficiencies
- ( ) Shape
- ( ) Illumination-Fenestration
- ( ) Acoustics
- ( ) Heating-Ventilation
- ( ) Furniture
- ( ) Equipment
- ( ) Walls-Ceiling
- ( ) Floors
- ( ) Outside noise
- ( ) Privacy (offices)
- ( ) Desks
- ( ) Decoration
- ( ) Other ______________

Adequacy of Space (Check one)
- ( ) Overcrowded
- ( ) Tight, but adequate
- ( ) Comfortable
- ( ) More space than necessary
- ( ) Other ______________

General Room Quality (Check one)
- ( ) Excellent
- ( ) Satisfactory
- ( ) Poor
- ( ) Unsatisfactory

Remarks:

OKLAHOMA STATE REGENTS FOR HIGHER EDUCATION
State Capitol, Oklahoma City

SELF-STUDY OF HIGHER EDUCATION IN OKLAHOMA

Enrollment in General Classrooms and Teaching Laboratories
(Form 6-3)

(Complete one form for each classroom and each teaching lab.)

Institution ____________ Completed by ____________

Name of Building ______ Room Number ______ Object Code ______ Functional Code ______

Assignable Square Feet ______ No. Optimum Stations ______ Assignable Sq.Ft. per Actual Station ______

Assigned to a Dept. ( ) Yes ( ) No Principal Use of Room ______

Number of Students Occupying Room Each Period During Week

Period of the day	Day of the Week						Total Student-Station Occupancy (7)	Total Room-Period Use (8)
	Mon. (1)	Tues. (2)	Wed. (3)	Thurs. (4)	Fri. (5)	Sat. (6)		
7-8 a.m.								
8-9 "								
9-10 "								
10-11 "								
11-12 "								
12-1 p.m.								
1-2 "								
2-3 "								
3-4 "								
4-5 "								
5-6 "								
6-7 "								
7-8 "								
8-9 "								
9-10 "								
Total Student-Station Occupancy								
Total Room-Period Use								

OKLAHOMA STATE REGENTS FOR HIGHER EDUCATION
State Capitol, Oklahoma City

SELF-STUDY OF HIGHER EDUCATION IN OKLAHOMA

Building Inventory
(Form 6-4)

(Complete one form for each building except housing units)

Institution ______________________ Completed by ______________________

Name of Building ______________ No. of Rooms ________ Total Assignable Sq.Ft. ________ Outside Gross Square Ft. ________

Building Construction Cost

	Original Construction	Additions, Major Remodeling, Major Maintenance				Total Cost
		1	2	3	4	
Date						
Const. Cost	$	$	$	$	$	$
Equip. Cost	$	$	$	$	$	$
Fees	$	$	$	$	$	$
Prorated Costs	$	$	$	$	$	$
TOTAL	$	$	$	$	$	$

Age of Building
- ☐ Less than 10 years
- ☐ 10 to 40 years
- ☐ Over 40 years

Construction Features
- ☐ Permanent
- ☐ Temporary

- ☐ Fire Resistive
- ☐ Not Fire Resistive

Construction Type
- ☐ Wood Frame
- ☐ Masonry
- ☐ Steel Frame
- ☐ Reinforced Concrete
- ☐ Other ______________

(NOTE: Institutional officers should not complete the following items.
The qualitative appraisal will be made by a visitation team.)

General Building Quality
- ☐ Excellent
- ☐ Satisfactory
- ☐ Poor
- ☐ Unsatisfactory

Continue Use Indefinitely:
- ☐ With Ordinary Maintenance
- ☐ With Major Maintenance
- ☐ With Minor Alterations
- ☐ With Major Alterations

Discontinue Use:
- ☐ After Limited Time Only
- ☐ At Earliest Opportunity

Remarks:

OKLAHOMA STATE REGENTS FOR HIGHER EDUCATION
State Capitol, Oklahoma City

SELF-STUDY OF HIGHER EDUCATION IN OKLAHOMA

Inventory of Student, Staff and Guest Housing
(Form 6-5)

(Complete one form for each housing unit)

Institution ______________________ Completed by ______________________

Name of Building ______________________

Type of Housing:
- ☐ Single Student Housing
- ☐ Married Student Housing
- ☐ Faculty or Staff Housing
- ☐ Guest

No. of Suites or Units in Building __________

Total Outside Gross Sq. Ft. __________

Outside Gross Sq. Ft. per Unit __________

Single Student Housing Only:

Number of Occupant-Stations per Suite or Unit __________

Outside Gross Sq. Ft. per Occupant-Station __________

Building Construction Cost

	Original Construction	Additions, Major Remodeling, Major Maintenance 1	2	3	4	Total Cost
Date						
Const. Cost	$	$	$	$	$	$
Equip. Cost	$	$	$	$	$	$
Fees	$	$	$	$	$	$
Prorated Cost	$	$	$	$	$	$
TOTAL	$	$	$	$	$	$

Age of Building
- ☐ Less than 10 years
- ☐ 10 to 40 years
- ☐ Over 40 years

Construction Features
- ☐ Permanent
- ☐ Temporary

- ☐ Fire Resistive
- ☐ Not Fire Resistive

Construction Type
- ☐ Wood Frame
- ☐ Masonry
- ☐ Steel Frame
- ☐ Reinforced Concrete
- ☐ Other __________

(NOTE: Institutional officers should not complete the following items. The qualitative appraisal will be made by a visitation team.)

General Building Quality:
- ☐ Excellent
- ☐ Satisfactory
- ☐ Poor
- ☐ Unsatisfactory

Continue Use Indefinitely:
- ☐ With Ordinary Maintenance
- ☐ With Major Maintenance
- ☐ With Minor Alterations
- ☐ With Major Alterations

Discontinue Use:
- ☐ After Limited Time Only
- ☐ At Earliest Opportunity

APPENDIX B

DATA RELATIVE TO HOUSING FACILITIES

Table A—Amount and Proportion of Outside Gross Square Feet of Physical Plant Space in Housing Units by Age of Building, 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	Less Than 10 Years			10 to 40 Years			Over 40 Years			Total	
	No. Bldgs.	Sq. Ft.	Pct.	No. Bldgs.	Sq. Ft.	Pct.	No. Bldgs.	Sq. Ft.	Pct.	No. Bldgs.	Sq. Ft.
State Universities:											
OU	15	225,092	15.9	236	1,188,032	84.1	----	----	----	251	1,413,124
OSU	53	409,610	27.0	81	1,106,727	73.0	----	----	----	134	1,516,337
Both Universities	68	634,702	21.7	317	2,294,759	78.3	----	----	----	385	2,929,461
State 4-Year Colleges:											
CSC	6	124,239	43.6	13	154,425	54.2	2	6,160	2.2	21	284,824
ECSC	2	37,184	20.1	18	120,698	65.3	3	26,898	14.6	23	184.780
NESC	10	165,932	48.5	20	176,070	51.5	----	----	----	30	342,002
NWSC	1	34,861	32.1	2	70,292	64.8	1	3,382	3.1	4	108,535
SESC	7	15,831	11.9	18	115,554	86.8	1	1,729	1.3	26	133,114
SWSC	2	14,136	9.2	11	135,385	88.4	1	3,714	2.4	14	153,235
OCW	1	1.482	0.9	12	118,489	72.4	2	43,774	26.7	15	163,745
PAMC	30	76,715	38.7	31	100,354	50.6	4	21,299	10.7	65	198,368
LU	----	----	----	25	139,784	100.0	----	----	----	25	139,784
All 4-Year Colleges	59	470,380	27.5	150	1,131,051	66.2	14	106,956	6.3	223	1,708,387
State 2-Year Colleges:											
Cameron	----	----	----	9	76,804	100.0	----	----	----	9	76,804
Connors	5	36,608	40.1	5	35,553	39.0	3	19,107	20.9	13	91,268
Eastern	9	44,091	16.5	25	218.459	81.5	2	5,325	2.0	36	267.875
Murray	1	5,500	5.9	8	57,536	62.1	5	29,636	32.0	14	92,672
NEOAMC	3	27,433	32.4	8	57,170	67.6	----	----	----	11	84,603
NOJC	2	26,339	40.1	8	38,357	58.4	1	990	1.5	11	65,686
OMA	4	29,602	30.1	15	46,235	47.1	2	22,467	22.8	21	98,304
All 2-Year Colleges	24	169,573	21.8	78	530,114	68.2	13	77,525	10.0	115	777,212
All State Institutions	151	1,274,655	23.5	545	3,955,924	73.1	27	184,481	3.4	723	5,415,060
Private Institutions:											
Tulsa	----	----	----	3	111,663	86.9	1	16,848	13.1	4	128,511
OCC	4	81,020	100.0	----	----	----	----	----	----	4	81,020
St Greg	3	45,118	65.6	1	3,216	4.7	1	20,394	29.7	5	68,728
Three Private Institutions	7	126,138	45.3	4	114,879	41.3	2	37,242	13.4	13	278.259
All Institutions	158	1,400,793	24.6	549	4,070,803	71.5	29	221,723	3.9	736	5,693,319

Table B—Amount and Proportion of Outside Gross Square Feet of Physical Plant Space in Housing Units Classified as Permanent or as Temporary Construction, 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	Permanent Construction			Temporary Construction			Total	
	No. Bldgs.	Sq. Ft.	Pct.	No. Bldgs.	Sq. Ft.	Pct.	No. Bldgs.	Sq. Ft.
State Universities:								
OU	84	1,012,481	71.6	167	400,643	28.4	251	1,413,124
OSU	60	1,216,577	80.2	74	299,760	19.8	134	1,516,337
Both Universities	144	2,229,058	76.1	241	700,403	23.9	385	2,929,461
State 4-Year Colleges:								
CSC	12	252,252	88.6	9	32,572	11.4	21	284,824
ECSC	5	122,612	66.4	18	62,168	33.6	23	184.780
NESC	14	295,713	86.5	16	46,289	13.5	30	342,002
NWSC	4	108,535	100.0	----	----	----	4	108,535
SESC	12	89,924	67.5	14	43,190	32.5	26	133,114
SWSC	6	124,615	81.3	8	28,620	18.7	14	153,235
OCW	14	160,115	97.8	1	3,630	2.2	15	163,745
PAMC	36	155,006	78.1	29	43,362	21.9	65	198,368
LU	15	104,671	74.9	10	35,113	25.1	25	139,784
All 4-Year Colleges	118	1,413,443	82.7	105	294,944	17.3	223	1,708,387
State 2-Year Colleges:								
Cameron	6	66,254	86.3	3	10,550	13.7	9	76,804
Connors	7	80,560	88.3	6	10,708	11.7	13	91,268
Eastern	21	252,881	94.4	15	14,994	5.6	36	267.875
Murray	14	92,672	100.0	----	----	----	14	92,672
NEOAMC	7	65,820	77.8	4	18,783	22.2	11	84,603
NOJC	10	59,536	90.6	1	6,150	9.4	11	65,686
OMA	21	98,304	100.0	----	----	----	21	98,304
All 2-Year Colleges	86	716,027	92.1	29	61,185	7.9	115	777,212
All State Institutions	348	4,358,528	80.5	375	1,056,532	19.5	723	5,415,060
Private Institutions:								
Tulsa	3	92,511	72.0	1	36,000	28.0	4	128,511
OCC	4	81,020	100.0	----	----	----	4	81,020
St Greg	5	68,728	100.0	----	----	----	5	68,728
Three Private Institutions	12	242,259	87.1	1	36,000	12.9	13	278,259
All Institutions	360	4,600,787	80.8	376	1,092,532	19.2	736	5,693.319

Table C—Amount and Proportion of Outside Gross Square Feet of Physical Plant Space in Housing Units in Fire-Resistive and Non-Fire-Resistive Buildings, 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	Fire-Resistive			Non-Fire-Resistive			Total	
	No. Bldgs.	Sq. Ft.	Pct.	No. Bldgs.	Sq. Ft.	Pct.	No. Bldgs.	Sq. Ft.
State Universities:								
OU	83	1,003,591	71.0	168	409,533	29.0	251	1,413,124
OSU	60	1,216,577	80.2	74	299,760	19.8	134	1,516,337
Both Universities	143	2,220,168	75.8	242	709,293	24.2	385	2,929,461
State 4-Year Colleges:								
CSC	7	244,480	85.8	14	40,344	14.2	21	284,824
ECSC	5	122,612	66.4	18	62,168	33.6	23	184,780
NESC	14	295,713	86.5	16	46,289	13.5	30	342,002
NWSC	3	105,153	96.9	1	3,382	3.1	4	108,535
SESC	9	86,433	64.9	17	46,681	35.1	26	133,114
SWSC	4	120,145	78.4	10	33,090	21.6	14	153,235
OCW	8	148,415	90.6	7	15,330	9.4	15	163,745
PAMC	31	102,968	51.9	34	95,400	48.1	65	198,368
LU	11	83,812	60.0	14	55,972	40.0	25	139,784
All 4-Year Colleges	92	1,309,731	76.7	131	398,656	23.3	223	1,708,387
State 2-Year Colleges:								
Cameron	4	62,636	81.6	5	14,168	18.4	9	76,804
Connors	3	72,479	79.4	10	18,789	20.6	13	91,268
Eastern	11	236,574	88.3	25	31,301	11.7	36	267,875
Murray	2	38,740	41.8	12	53,932	58.2	14	92,672
NEOAMC	5	56,338	66.6	6	28,265	33.4	11	84,603
NOJC	3	50,517	76.9	8	15,169	23.1	11	65,686
OMA	1	25,760	26.2	20	72,544	73.8	21	98,304
All 2-Year Colleges	29	543,044	69.9	86	234,168	30.1	115	777,212
All State Institutions	264	4,072,943	75.2	459	1,342,117	24.8	723	5,415,060
Private Institutions:								
Tulsa	3	111,663	86.9	1	16,848	13.1	4	128,511
OCC	4	81,020	100.0	----	----	----	4	81,020
St Greg	4	65,512	95.3	1	3,216	4.7	5	68,728
Three Private Institutions	11	258,195	92.8	2	20,064	7.2	13	278,259
All Institutions	275	4,331,138	76.1	461	1,362,181	23.9	736	5,693,319

Table D—Amount and Proportion of Outside Gross Square Feet of Physical Plant Space in Housing Units According to the General Quality of Space, 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	Excellent		Satisfactory		Poor		Unsatisfactory		Total	
	Sq. Ft.	Pct.	Sq. Ft.	Pct.	Sq. Ft.	Pct.	Sq. Ft.	Pct.	Sq. Ft.	Pct.
State Universities:										
OU	477,016	33.8	376,825	26.7	456,887	32.3	102,396	7.2	1,413,124	100.0
OSU	606,474	40.0	610,103	40.2	----	----	299,760	19.8	1,516,337	100.0
Both Universities	1,083,490	37.0	986,928	33.7	456,887	15.6	402,156	13.7	2,929,461	100.0
State 4-Year Colleges:										
CSC	53,100	18.6	197,668	69.4	----	----	34,056	12.0	284,824	100.0
ECSC	37,184	20.1	73,770	39.9	58,608	31.8	15,218	8.2	184,780	100.0
NESC	165,932	48.5	131,584	38.5	1,092	0.3	43,394	12.7	342,002	100.0
NWSC	34,861	32.1	73,674	67.9	----	----	----	----	108,535	100.0
SESC	57,177	42.9	31,729	23.8	38,376	28.8	5,832	4.5	133,114	100.0
SWSC	14,136	9.2	110,479	72.1	----	----	28,620	18.7	153,235	100.0
OCW	6,750	4.1	114,891	70.2	38,474	23.5	3,630	2.2	163,745	100.0
PAMC	75,623	38.1	73,597	37.2	7,215	3.6	41,933	21.1	198,368	100.0
LU	----	----	56,223	40.2	28,800	20.6	54,761	39.2	139,784	100.0
All 4-Year Colleges	444,763	26.0	863,615	50.6	172,565	10.1	227,444	13.3	1,708,387	100.0
State 2-Year Colleges:										
Cameron	----	----	18,855	24.5	14,185	18.5	43,764	57.0	76,804	100.0
Connors	31,677	34.7	35,763	39.2	18,354	20.1	5,474	6.0	91,268	100.0
Eastern	40,576	15.1	201,897	75.4	17,842	6.7	7,560	2.8	267,875	100.0
Murray	5,500	5.9	53,484	57.8	33,688	36.3	----	----	92,672	100.0
NEOAMC	11,678	13.8	54,142	64.0	798	0.9	17,985	21.3	84,603	100.0
NOJC	27,689	42.2	30,857	47.0	----	----	7,140	10.8	65,686	100.0
OMA	29,260	29.8	66,097	67.2	----	----	2,947	3.0	98,304	100.0
All 2-Year Colleges	146,380	18.9	461,095	59.3	84,867	10.9	84,870	10.9	777,212	100.0
All State Institutions	1,674,633	30.9	2,311,638	42.7	714,319	13.2	714,470	13.2	5,415,060	100.0
Private Institutions:										
Tulsa	92,508	72.0	19,155	14.9	16,848	13.1	----	----	128,511	100.0
OCC	81,020	100.0	----	----	----	----	----	----	81,020	100.0
St Greg	----	----	48,334	70.3	----	----	20,394	29.7	68,728	100.0
Three Private Institutions	173,528	62.4	67,489	24.2	16,848	6.1	20,394	7.3	278,259	100.0
All Institutions	1,848,161	32.5	2,379,127	41.8	731,167	12.8	734,864	12.9	5,693,319	100.0

Table E—Amount of Outside Gross Square Feet of Physical Plant Space in Housing Units According to Whether It Can Be Continued in Use Indefinitely or Should Be Abandoned, 21 21 Oklahoma Colleges and Universities, Fall, 1963

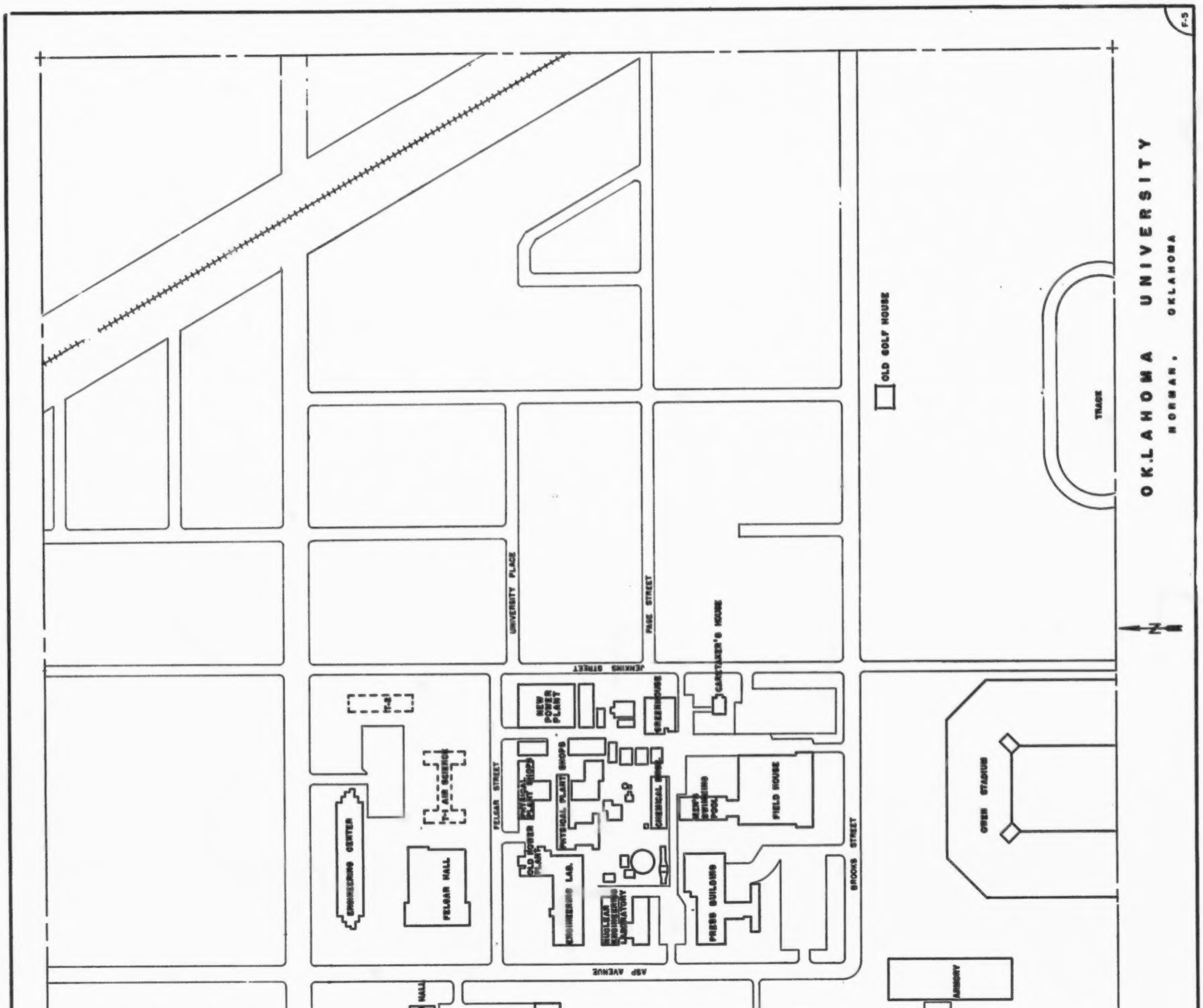
Institution	Continue in Use Indefinitely				Abandon		Total
	With Minor Maintenance	With Major Maintenance	With Minor Alterations	With Major Alterations	Need Not Be Replaced	To Be Replaced	
State Universities:							
OU	876,436	168,239	----	----	7,025	361,424	1,413,124
OSU	1,216,577	----	----	----	----	299,760	1,516,337
Both Universities	2,093,013	168,239	----	----	7,025	661,184	2,929,461
State 4-Year Colleges:							
CSC	176,200	----	----	74,568	3,724	30,332	284,824
ECSC	110,954	----	----	----	----	73,826	184,780
NESC	297,516	----	----	----	1,092	43,394	342,002
NWSC	108,535	----	----	----	----	----	108,535
SESC	88,906	----	----	----	1,018	43,190	133,114
SWSC	124,615	----	----	----	----	28,620	153,235
OCW	121,641	1,482	----	32,598	4,394	3,630	163,745
PAMC	156,435	----	----	----	----	41,933	198,368
LU	12,817	72,206	----	----	----	54,761	139,784
All 4-Year Colleges	1,197,619	73,688	----	107,166	10,228	319,686	1,708,387
State 2-Year Colleges:							
Cameron	33,040	----	----	----	----	43,764	76,804
Connors	69,870	15,924	----	----	----	5.474	91,268
Eastern	241,017	4,000	----	----	2,880	19,978	267,875
Murray	25,744	----	----	33,240	----	33,688	92,672
NEOAMC	48,353	17,467	----	----	----	18,783	84,603
NOJC	58,546	----	----	----	7,140	----	65,686
OMA	95,357	2,947	----	----	----	----	98,304
All 2-Year Colleges	571,927	40,338	----	33,240	10,020	121,687	777,212
All State Institutions	3,862,559	282,265	----	140,406	27,273	1,102,557	5,415,060
Private Institutions:							
Tulsa	128,511	----	----	----	----	----	128,511
OCC	81,020	----	----	----	----	----	81,020
St Greg	48,334	----	----	----	----	20,394	68,728
Three Private Institutions	257,865	----	----	----	----	20,394	278,259
All Institutions	4,120,424	282,265	----	140,406	27,273	1,122,951	5,693,319

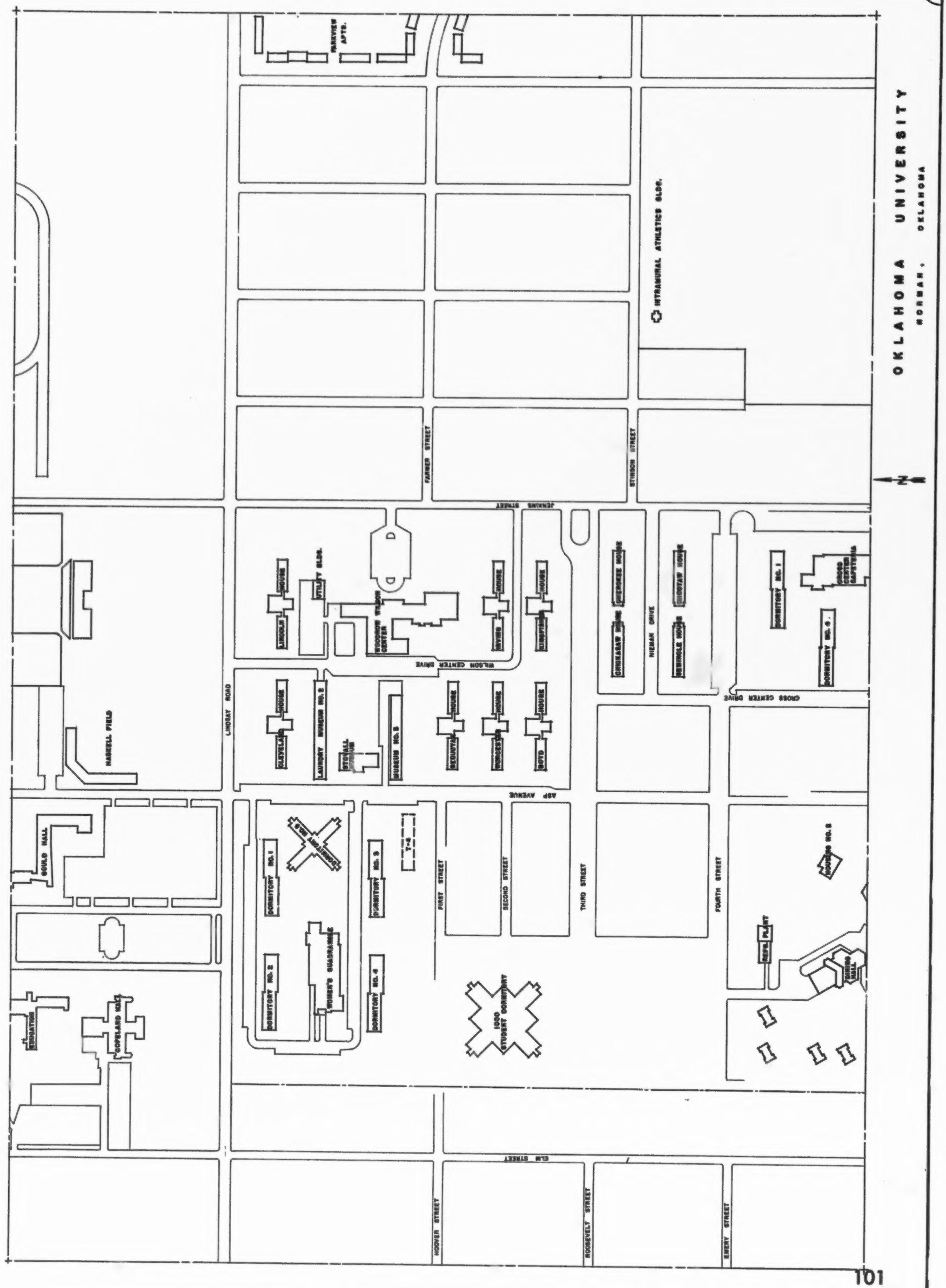
Table F—Percentage Distribution of Outside Gross Square Feet of Physical Plant Space in Housing Units According to Whether It Can Be Continued in Use Indefinitely or Should Be Abandoned, 21 Oklahoma Colleges and Universities, Fall, 1963

Institution	Continue in Use Indefinitely				Abandon		Total
	With Minor Maintenance	With Major Maintenance	With Minor Alterations	With Major Alterations	Need Not Be Replaced	To Be Replaced	
State Universities:							
OU	62.0	11.9	----	----	0.5	25.6	100.0
OSU	80.2	----	----	----	----	19.8	100.0
Both Universities	71.5	5.7	----	----	0.2	22.6	100.0
State 4-Year Colleges:							
CSC	61.9	----	----	26.2	1.3	10.6	100.0
ECSC	60.0	----	----	----	----	40.0	100.0
NESC	87.0	----	----	----	0.3	12.7	100.0
NWSC	100.0	----	----	----	----	----	100.0
SESC	66.8	----	----	----	0.8	32.4	100.0
SWSC	81.3	----	----	----	----	18.7	100.0
OCW	74.3	0.9	----	19.9	2.7	2.2	100.0
PAMC	78.9	----	----	----	----	21.1	100.0
LU	9.2	51.6	----	----	----	39.2	100.0
All 4-Year Colleges	70.1	4.3	----	6.3	0.6	18.7	100.0
State 2-Year Colleges:							
Cameron	43.0	----	----	----	----	57.0	100.0
Connors	76.6	17.4	----	----	----	6.0	100.0
Eastern	90.0	1.5	----	----	1.1	7.4	100.0
Murray	27.8	----	----	35.9	----	36.3	100.0
NEOAMC	57.2	20.6	----	----	----	22.2	100.0
NOJC	89.1	----	----	----	10.9	----	100.0
OMA	97.0	3.0	----	----	----	----	100.0
All 2-Year Colleges	73.6	5.2	----	4.3	1.3	15.6	100.0
All State Institutions	71.3	5.2	----	2.6	0.5	20.4	100.0
Private Institutions:							
Tulsa	100.0	----	----	----	----	----	100.0
OCC	100.0	----	----	----	----	----	100.0
St Greg	70.3	----	----	----	----	29.7	100.0
Three Private Institutions	92.7	----	----	----	----	7.3	100.0
All Institutions	72.4	4.9	----	2.5	0.5	19.7	100.0

APPENDIX C

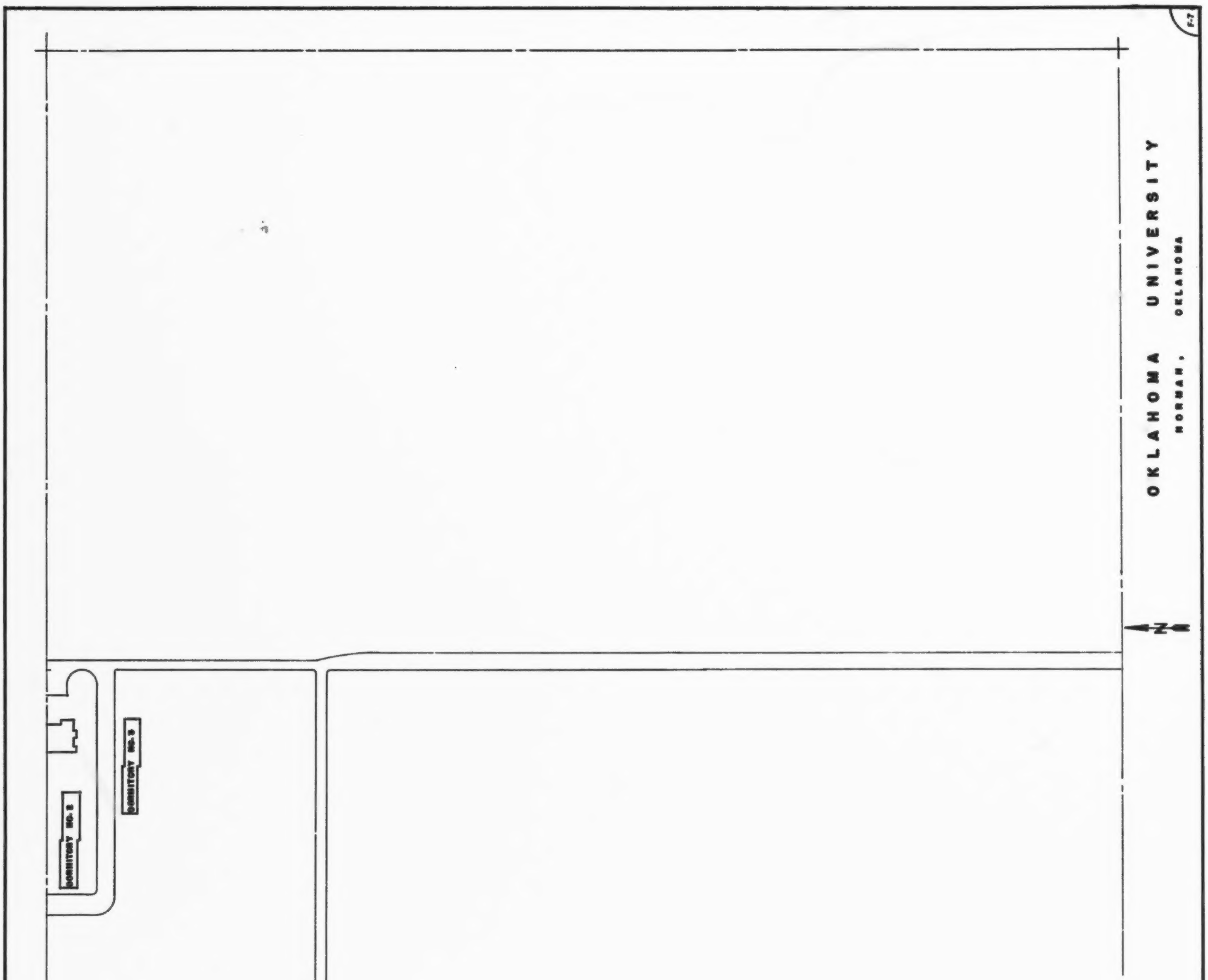
PLOT PLANS OF CAMPUSES OF THE 18 COLLEGES AND UNIVERSITIES IN THE STATE SYSTEM

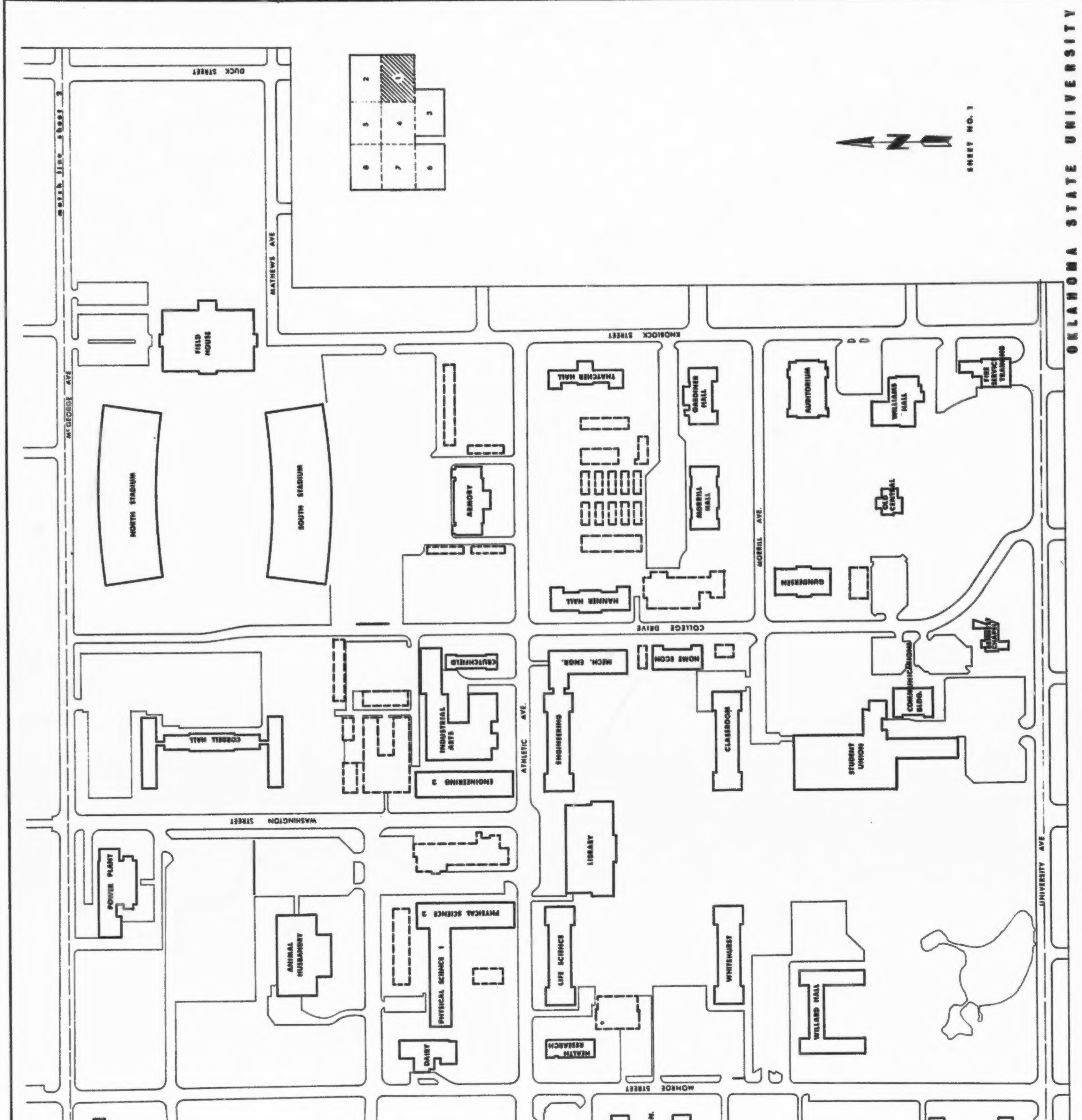

OKLAHOMA UNIVERSITY
NORMAN, OKLAHOMA
F-3
N
TRACK
OLD GOLF HOUSE
OWEN STADIUM
ARMORY
RICHARDS HALL
ANIMAL HOUSE
GREENHOUSE
ADAMS HALL
BUCHANAN HALL
MEMORIAL STUDENT UNION
CARPENTER HALL
JACOBSON HALL
MONNET HALL
CARNEGIE BUILDING
BOYD STREET
WHITEHAND HALL
UNIVERSITY BOULEVARD
FRANKLIN HOUSE
HOUSE NO.1
HOUSE NO.2
PRESIDENT'S HOME
GARAGE
HOLMBERG HALL
FINE ARTS CENTER
DeBARR HALL
CHEMISTRY ANNEX
PHARMACY BLDG.
EVANS HALL
BIZZELL MEMORIAL LIBRARY
WOMEN'S BLDG.
SCIENCE ANNEX
ELLISON HALL
RESEARCH INSTITUTE
KAUFMAN HALL
HESTER HALL
ROBERTSON HALL
BROOKS STREET
ELM STREET
CRUCE STREET
SUTTON HALL
JOHNSON HOUSE
GARAGE
ASP AVENUE
FELGAR STREET
ENGINEERING CENTER
FELGAR HALL
AIR SCIENCE
NEW POWER PLANT
GREENHOUSE
CARETAKER'S HOUSE
JENKINS STREET
PAGE STREET
UNIVERSITY PLACE
FIELD HOUSE
MEN'S SWIMMING POOL
PRESS BUILDING
ENGINEERING LAB.
NUCLEAR ENGINEERING LABORATORY
CHEMICAL ENGR.
PHYSICAL PLANT SHOPS
OLD POWER PLANT



OKLAHOMA UNIVERSITY
NORMAN, OKLAHOMA

F-6
N
PARKVIEW APTS.
INTRAMURAL ATHLETICS BLDG.
FARMER STREET
STINSON STREET
JENKINS STREET
LINCOLN HOUSE
UTILITY BLDG.
WOODROW WILSON CENTER
IRVING HOUSE
KINGFISHER HOUSE
CHICKASAW HOUSE
CHEROKEE HOUSE
NIEMAN DRIVE
SEMINOLE HOUSE
CHOCTAW HOUSE
DORMITORY NO. 1
CROSS CENTER CAFETERIA
DORMITORY NO. 4.
WILSON CENTER DRIVE
CROSS CENTER DRIVE
HASKELL FIELD
LINDSAY ROAD
CLEVELAND HOUSE
LAUNDRY
MUSEUM NO. 2
STOVALL MUSEUM
MUSEUM NO. 3
SEQUOYAH HOUSE
WORCESTER HOUSE
BOYD HOUSE
ASP AVENUE
GOULD HALL
DORMITORY NO. 1
DORMITORY NO. 5
DORMITORY NO. 3
T-6
FIRST STREET
SECOND STREET
THIRD STREET
FOURTH STREET
HOUSING NO. 2
REPR. PLANT
DINING HALL
DORMITORY NO. 2
WOMEN'S QUADRANGLE
DORMITORY NO. 4
1000 STUDENT DORMITORY
EDUCATION
COPELAND HALL
ELM STREET
HOOVER STREET
ROOSEVELT STREET
EMERY STREET


OKLAHOMA UNIVERSITY
NORMAN, OKLAHOMA
F-7
N
DORMITORY NO. 2
DORMITORY NO. 3
ASP STREET
ADMINISTRATION BUILDING
FORUM BUILDING
HOUSING NO. 1
TIMBERDELL ROAD


OKLAHOMA STATE UNIVERSITY
STILLWATER, OKLAHOMA
SHEET NO. 1
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1
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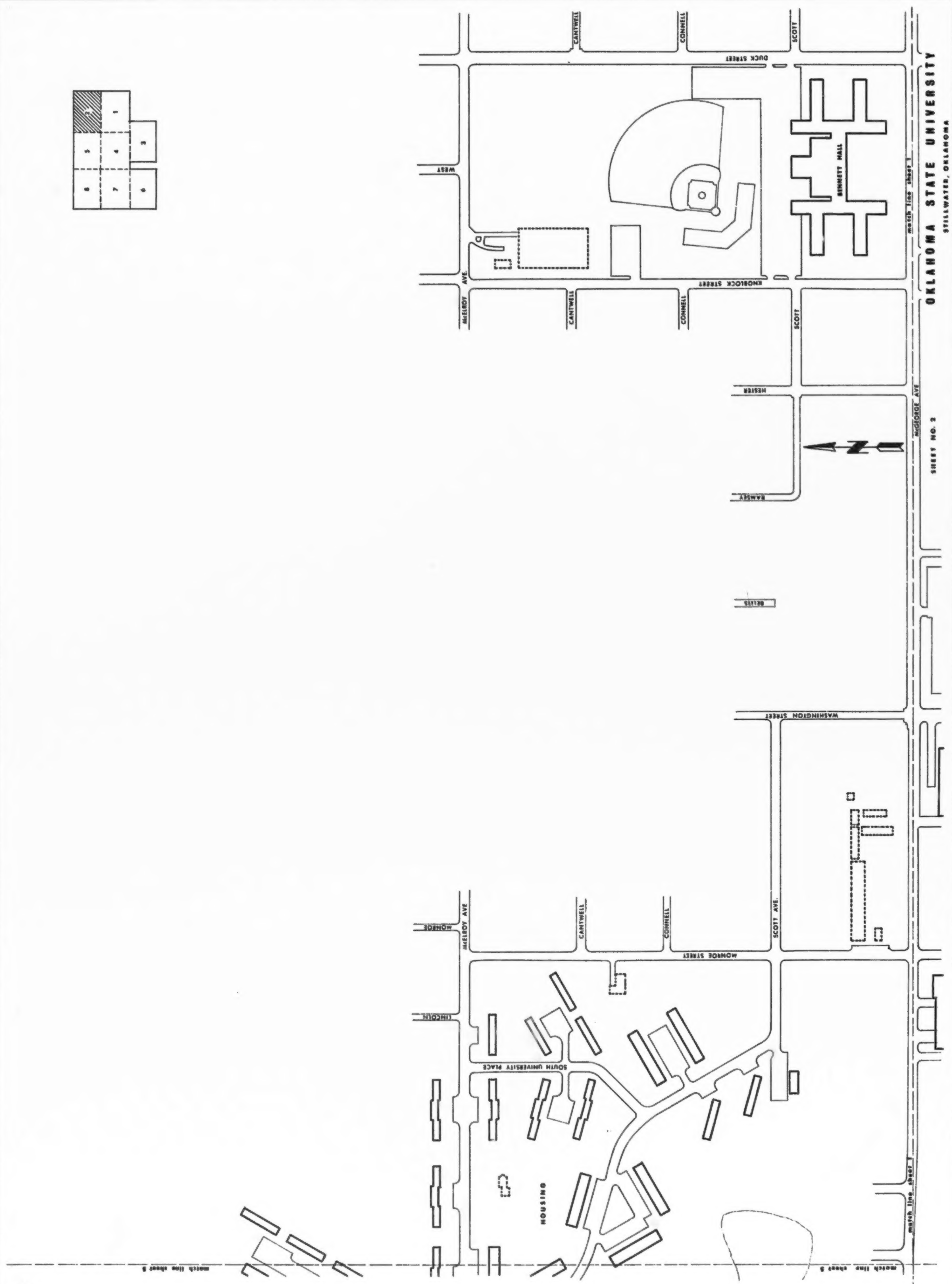
8
DUCK STREET
match line sheet 2
MATHEWS AVE
McGEORGE AVE
FIELD HOUSE
NORTH STADIUM
SOUTH STADIUM
KNOBLOCK STREET
THATCHER HALL
GARDINER HALL
MORRILL HALL
MORRILL AVE.
AUDITORIUM
WILLIAMS HALL
FIRE SERVICE TRAINING
OLD CENTRAL
GUNDERSEN
HANNER HALL
ARMORY
COLLEGE DRIVE
CRUTCHFIELD
MECH. ENGR.
HOME ECON
INDUSTRIAL ARTS
ENGINEERING
CLASSROOM
COMMUNICATIONS BLDG.
STUDENT UNION
CORDELL HALL
ENGINEERING 2
ATHLETIC AVE.
WASHINGTON STREET
LIBRARY
POWER PLANT
ANIMAL HUSBANDRY
PHYSICAL SCIENCE 2
PHYSICAL SCIENCE 1
LIFE SCIENCE
WHITEHURST
WILLARD HALL
UNIVERSITY AVE
DAIRY
HEALTH RESEARCH
MONROE STREET
HOME ECON.
UNIV. HOSP.
MURRAY HALL
NORTH MURRAY
POULTRY
MEAT LAB
AGR. HALL 1
AGR. HALL 2
FARM ROAD
BEEF CATTLE BARN
STOUT HALL
DORM B
DORM A
CAFETERIA
UNIVERSITY CIRCLE
10 STORY
match line sheet 4


OKLAHOMA STATE UNIVERSITY
STILLWATER, OKLAHOMA
SHEET NO. 2
match line sheet 1
match line sheet 5
DUCK STREET
KNOBLOCK STREET
CANTWELL
CONNELL
SCOTT
WEST
McELROY AVE.
BENNETT HALL
HESTER
RAMSEY
BELLIS
McGEORGE AVE
WASHINGTON STREET
MONROE
MONROE STREET
SCOTT AVE.
LINCOLN
SOUTH UNIVERSITY PLACE
HOUSING
N
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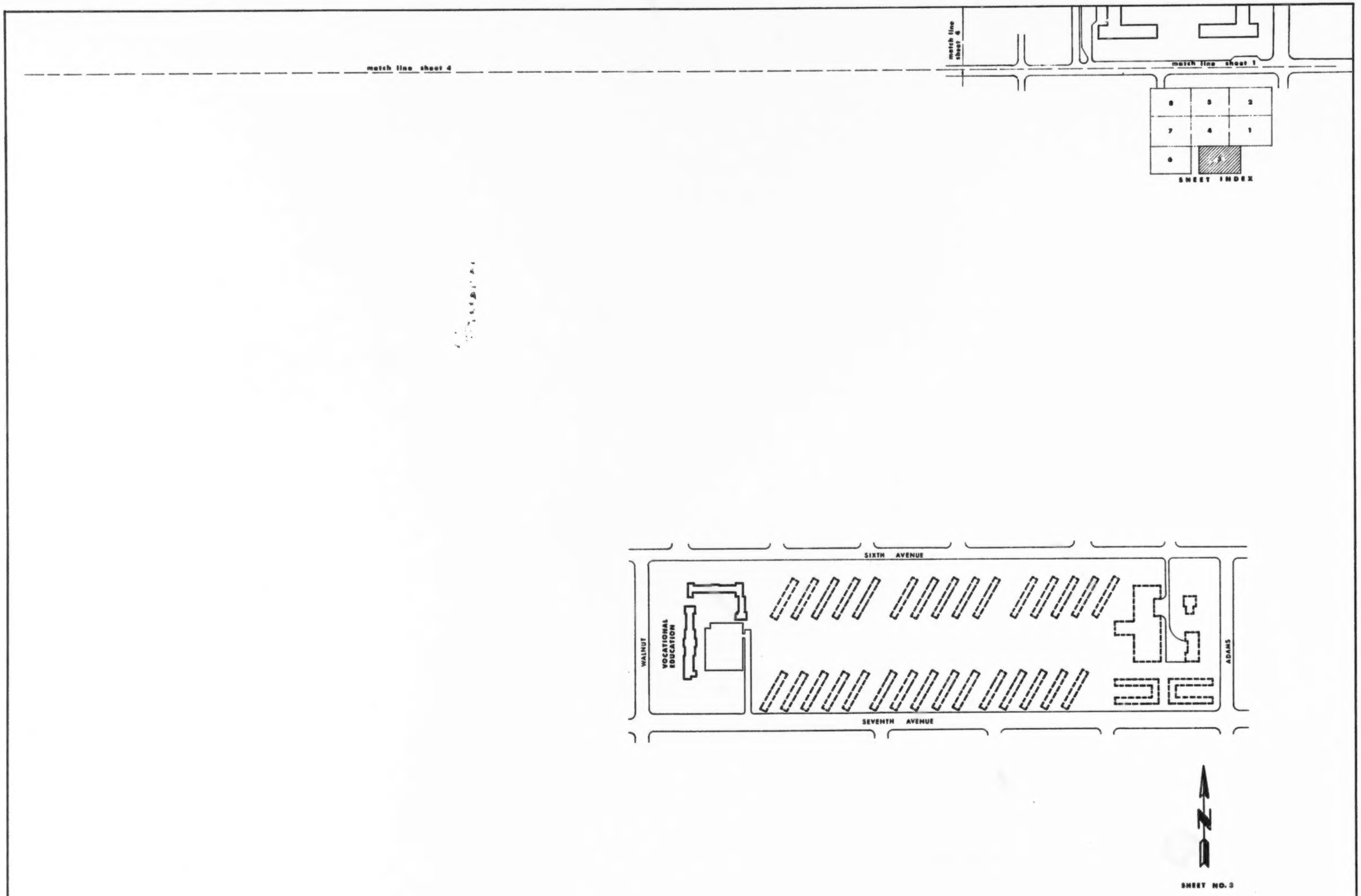
2
3
4
5
6
7
8


match line sheet 4
match line sheet 4
match line sheet 1
8
5
2
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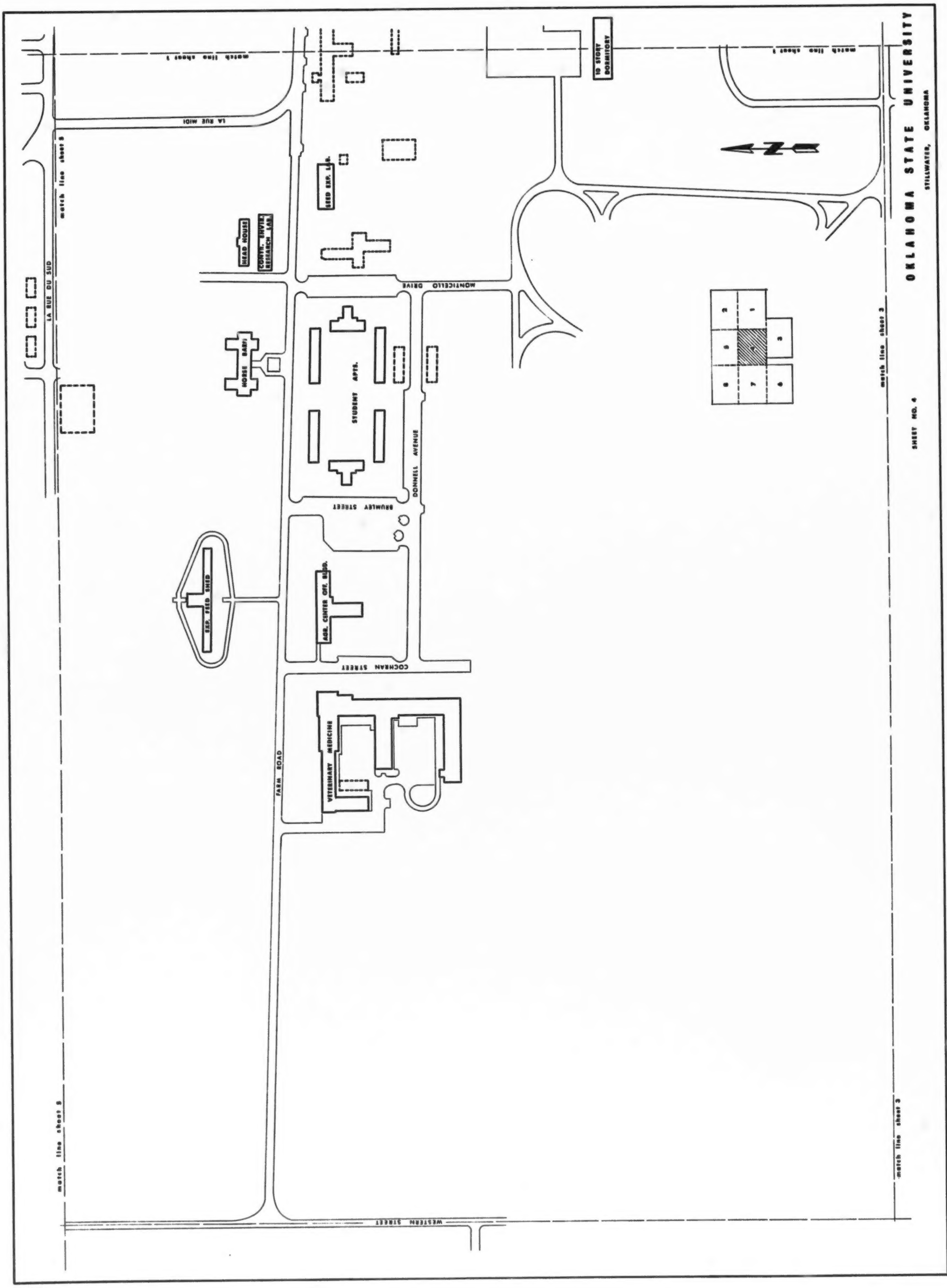
1
9
3
SHEET INDEX
SIXTH AVENUE
WALNUT
VOCATIONAL EDUCATION
ADAMS
SEVENTH AVENUE
N
SHEET NO. 3

OKLAHOMA STATE UNIVERSITY
STILLWATER, OKLAHOMA


OKLAHOMA STATE UNIVERSITY
STILLWATER, OKLAHOMA
SHEET NO. 4
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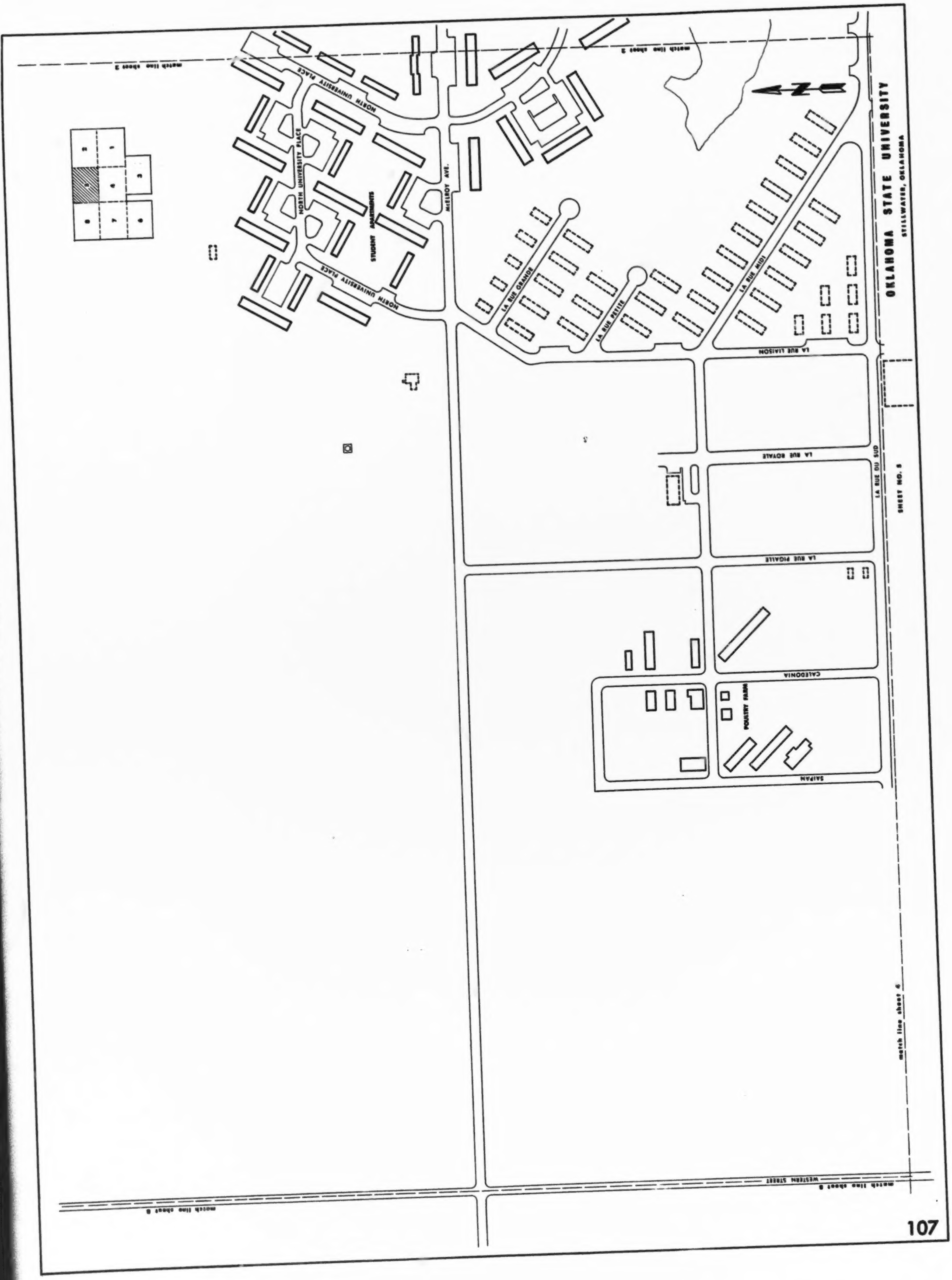
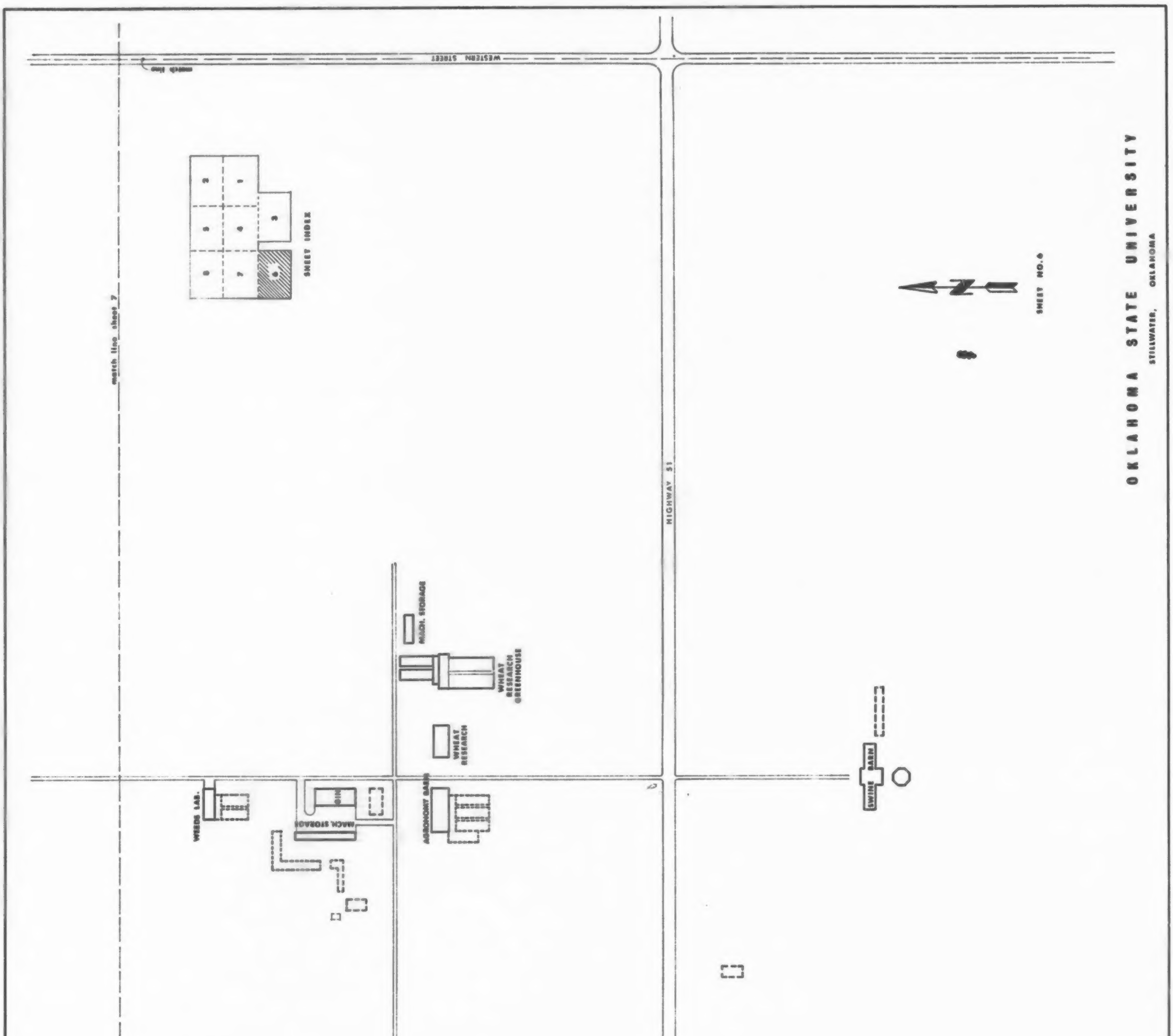
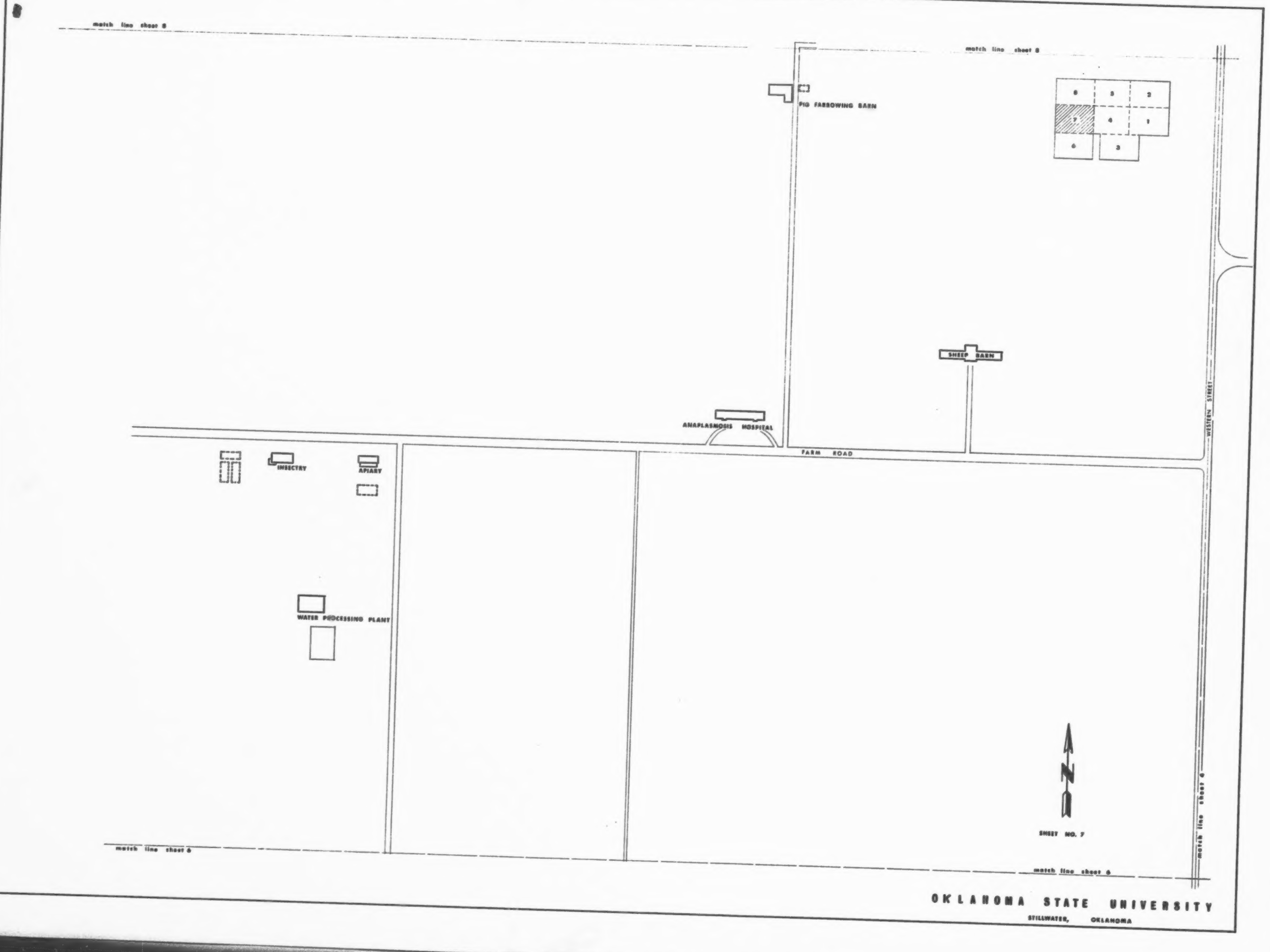
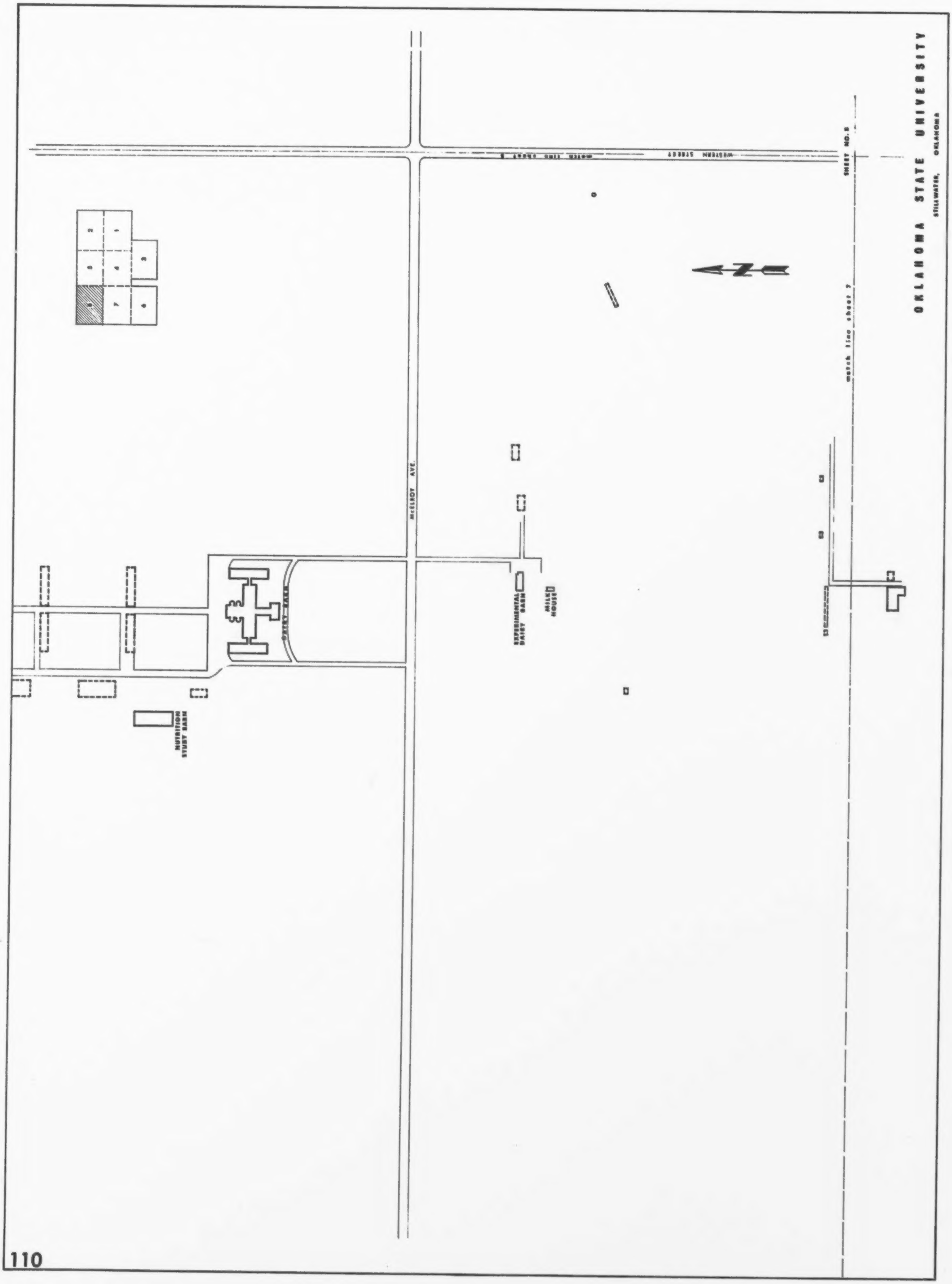
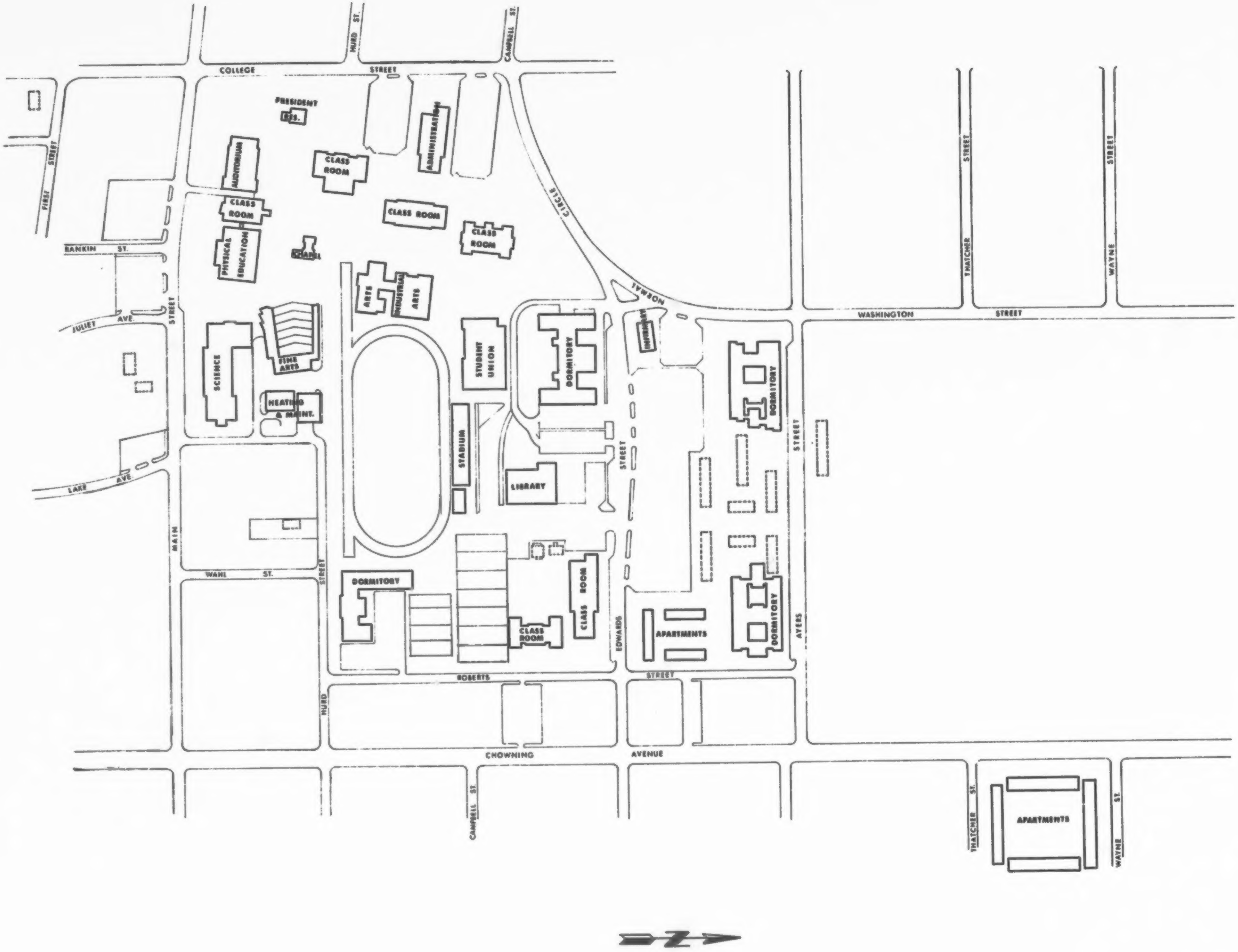
match line sheet 1
match line sheet 1
match line sheet 3
match line sheet 3
match line sheet 5
match line sheet 5
10 STORY DORMITORY
LA RUE MIDI
LA RUE DU SUD
SEED EXP. LAB.
HEAD HOUSE
CONTR. ENVIR. RESEARCH LAB.
MONTICELLO DRIVE
HORSE BARN
STUDENT APTS.
DONNELL AVENUE
BRUMLEY STREET
EXP. FEED SHED
AGR. CENTER OFF. BLDG.
COCHRAN STREET
VETERINARY MEDICINE
FARM ROAD
WESTERN STREET
1
2
3
4
5
6
7
8


OKLAHOMA STATE UNIVERSITY
STILLWATER, OKLAHOMA
SHEET NO. 5
match line sheet 2
match line sheet 4
match line sheet 8
NORTH UNIVERSITY PLACE
STUDENT APARTMENTS
McELROY AVE.
LA RUE GRANDE
LA RUE PETITE
LA RUE MIDI
LA RUE LIAISON
LA RUE ROYALE
LA RUE DU SUD
LA RUE PIGALLE
CALEDONIA
POULTRY FARM
SAIPAN
WESTERN STREET
N


OKLAHOMA STATE UNIVERSITY
STILLWATER, OKLAHOMA
SHEET NO.6
N
WESTERN STREET
match line
match line sheet 7
SHEET INDEX
1
2
3
4
5
6
7
8
HIGHWAY 51
MACH. STORAGE
WHEAT RESEARCH GREENHOUSE
WHEAT RESEARCH
AGRONOMY BARN
MACH. STORAGE
WEEDS LAB.
SWINE BARN

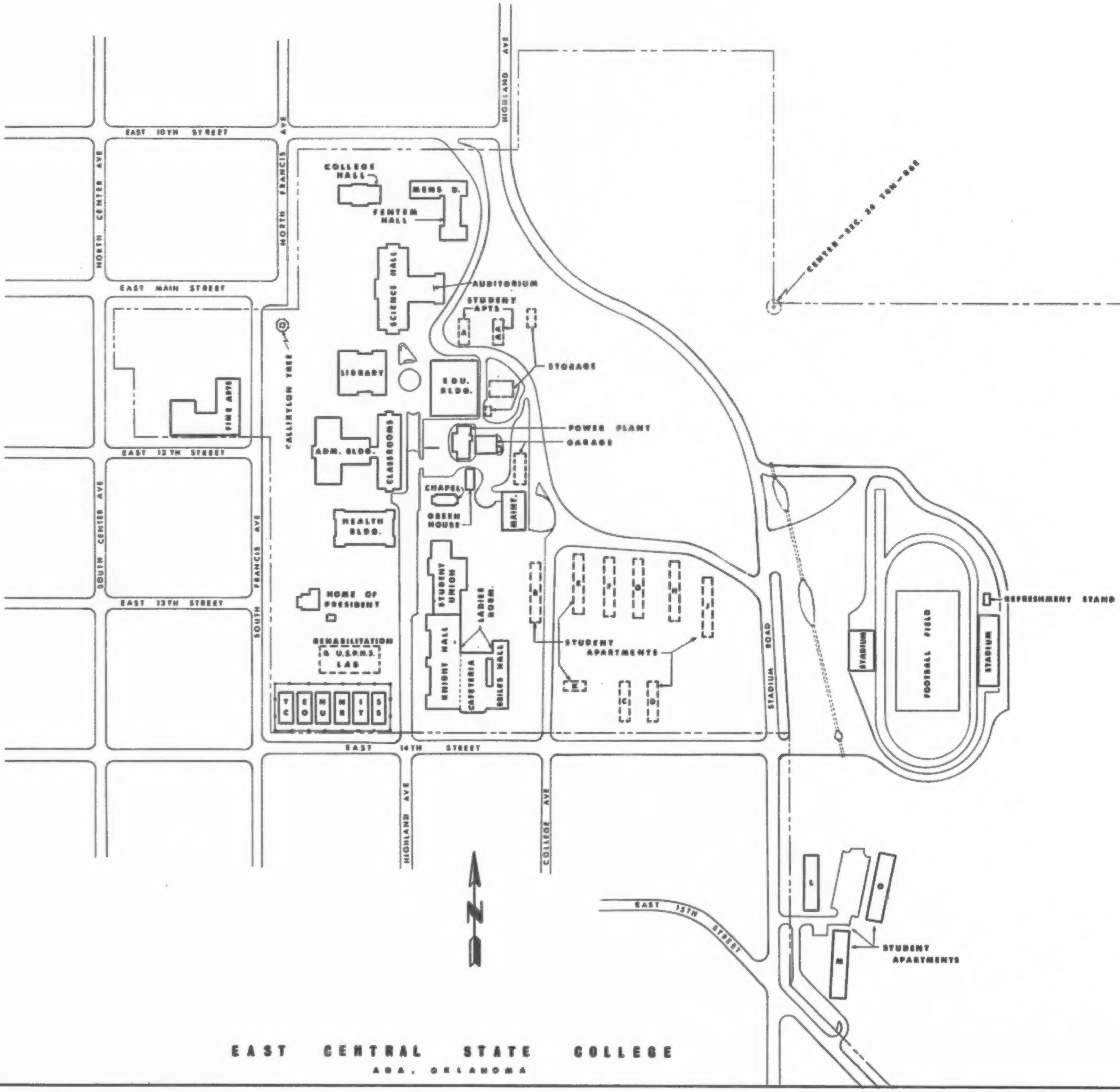

match line sheet 8
match line sheet 8
PIG FARROWING BARN
8
5
2
7
4
1
6
3
SHEEP BARN
WESTERN STREET
ANAPLASMOSIS HOSPITAL
FARM ROAD
INSECTRY
APIARY
WATER PROCESSING PLANT
N
SHEET NO. 7
match line sheet 6
match line sheet 6
match line sheet 6
OKLAHOMA STATE UNIVERSITY
STILLWATER, OKLAHOMA


OKLAHOMA STATE UNIVERSITY
STILLWATER, OKLAHOMA
SHEET NO. 8
match line sheet 7
match line sheet 5
WESTERN STREET
McELROY AVE.
DAIRY BARN
EXPERIMENTAL DAIRY BARN
MILK HOUSE
NUTRITION STUDY BARN
N
1
2
3
4
5
6
7
8


COLLEGE STREET
HURD ST.
CAMPBELL ST.
FIRST STREET
RANKIN ST.
JULIET AVE.
LAKE AVE.
MAIN STREET
WAHL ST.
HURD STREET
CIRCLE
NORMAL
WASHINGTON STREET
THATCHER STREET
WAYNE STREET
EDWARDS STREET
AYERS STREET
ROBERTS STREET
CHOWNING AVENUE
CAMPBELL ST.
THATCHER ST.
WAYNE ST.
PRESIDENT RES.
AUDITORIUM
CLASS ROOM
ADMINISTRATION
CLASS ROOM
CLASS ROOM
CLASS ROOM
PHYSICAL EDUCATION
CHAPEL
ARTS
INDUSTRIAL ARTS
FINE ARTS
SCIENCE
HEATING & MAINT.
STUDENT UNION
STADIUM
DORMITORY
INFIRMARY
LIBRARY
DORMITORY
CLASS ROOM
CLASS ROOM
DORMITORY
DORMITORY
APARTMENTS
APARTMENTS
N

CENTRAL STATE COLLEGE

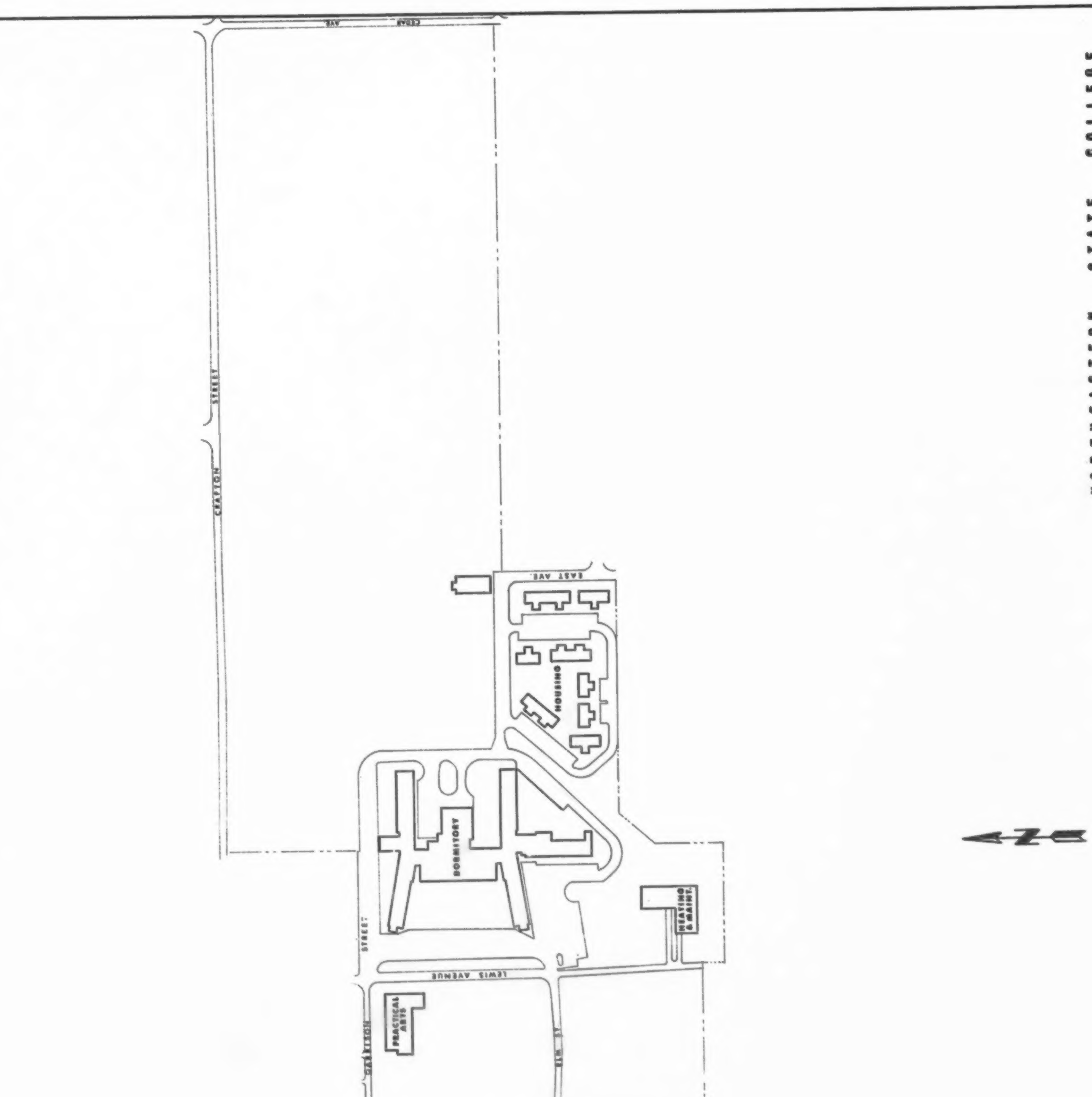
EDMOND · OKLAHOMA

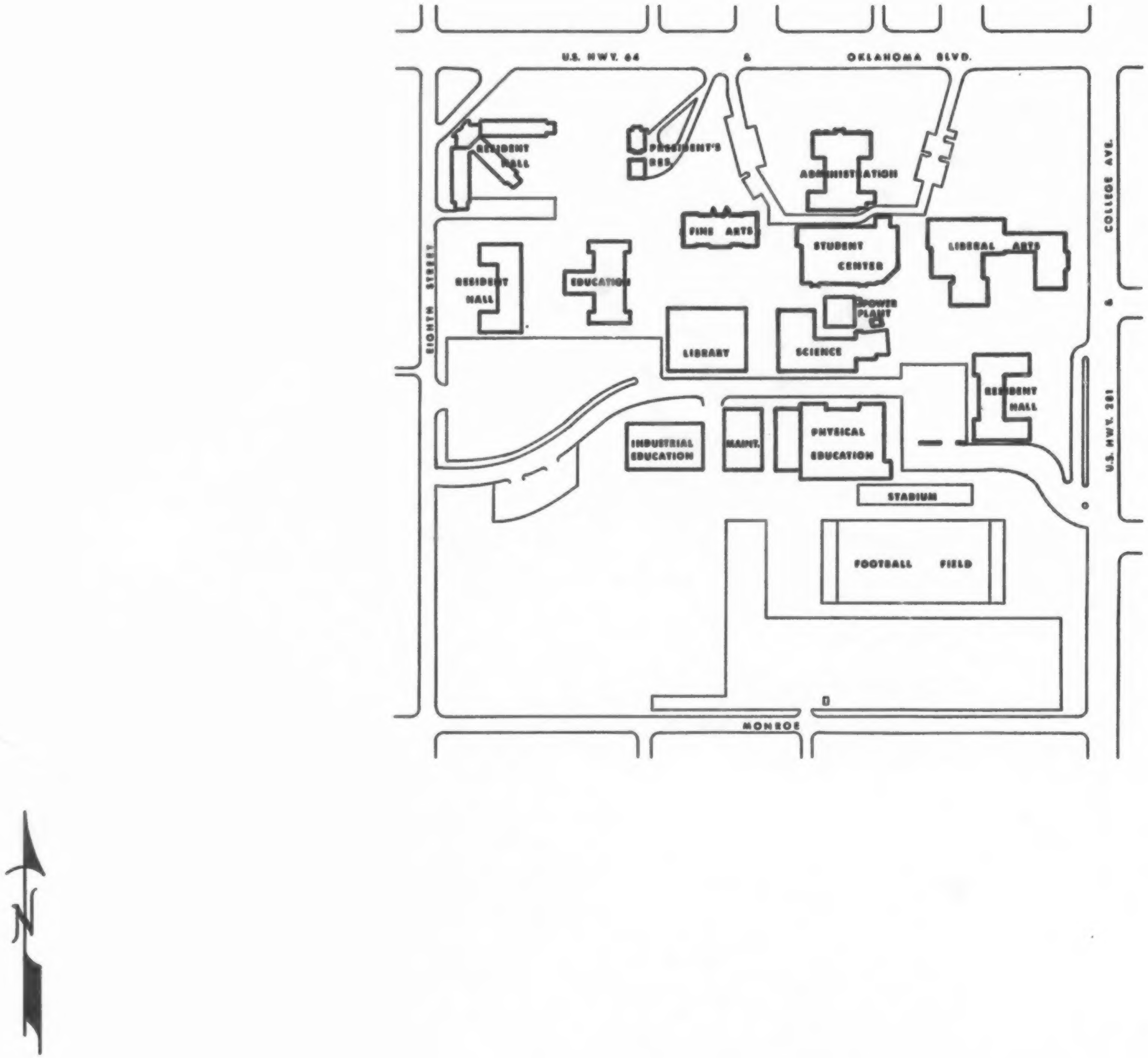

EAST 10TH STREET
NORTH CENTER AVE
NORTH FRANCIS AVE
HIGHLAND AVE
COLLEGE HALL
MENS D.
FENTEM HALL
SCIENCE HALL
AUDITORIUM
EAST MAIN STREET
STUDENT APTS
CENTER—SEC. 34 T4N—R6E
CALLIXYLON TREE
LIBRARY
EDU. BLDG.
STORAGE
FINE ARTS
POWER PLANT
GARAGE
ADM. BLDG.
CLASSROOMS
EAST 12TH STREET
CHAPEL
GREEN HOUSE
MAINT.
HEALTH BLDG.
SOUTH CENTER AVE
SOUTH FRANCIS AVE
STUDENT UNION
LADIES DORM.
HOME OF PRESIDENT
EAST 13TH STREET
KNIGHT HALL
CAFETERIA
BRILES HALL
REHABILITATION & U.S.P.H.S. LAB
TENNIS COURTS
STUDENT APARTMENTS
STADIUM ROAD
STADIUM
FOOTBALL FIELD
STADIUM
REFRESHMENT STAND
EAST 14TH STREET
HIGHLAND AVE
COLLEGE AVE
N
EAST 15TH STREET
STUDENT APARTMENTS

EAST CENTRAL STATE COLLEGE
ADA, OKLAHOMA

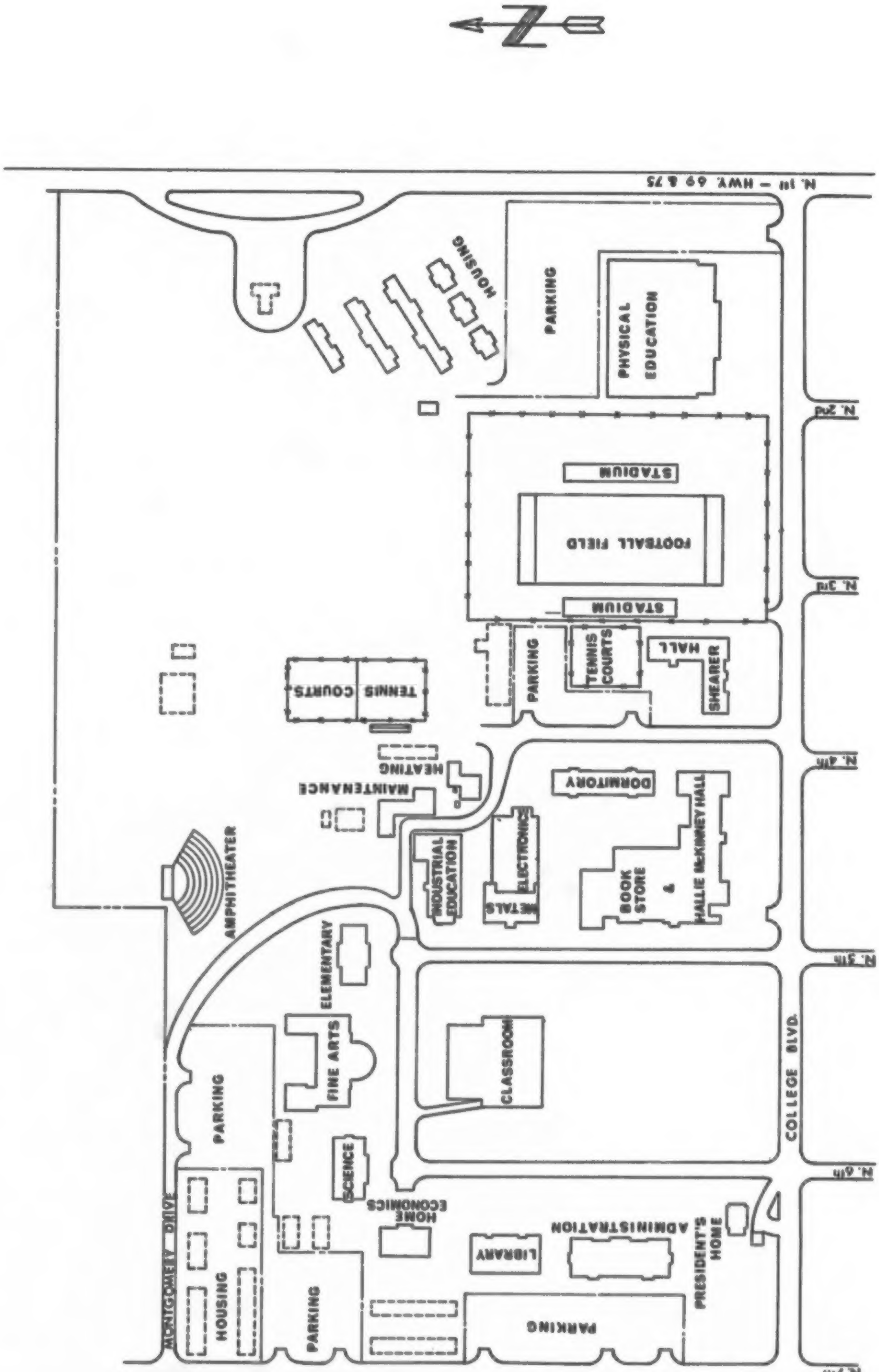
NORTHEASTERN STATE COLLEGE

TAHLEQUAH, OKLAHOMA


CEDAR AVE.
GRAFTON STREET
EAST AVE.
HOUSING
DORMITORY
HEATING & MAINT.
GARRISON STREET
LEWIS AVENUE
PRACTICAL ARTS
ELM ST.
STATE HIGHWAY 62 & GRAND AVE.
INDUSTRIAL ARTS
FINE ARTS
STUDENT UNION
DORMITORY
FOOTBALL FIELD
HOUSING
LIBRARY
STADIUM
PHYSICAL EDUCATION
VALLEY
ADMINISTRATION
DORMITORY
SEMINARY
EDUCATION
SCIENCE
PRESIDENT RES.
SEMINARY
N

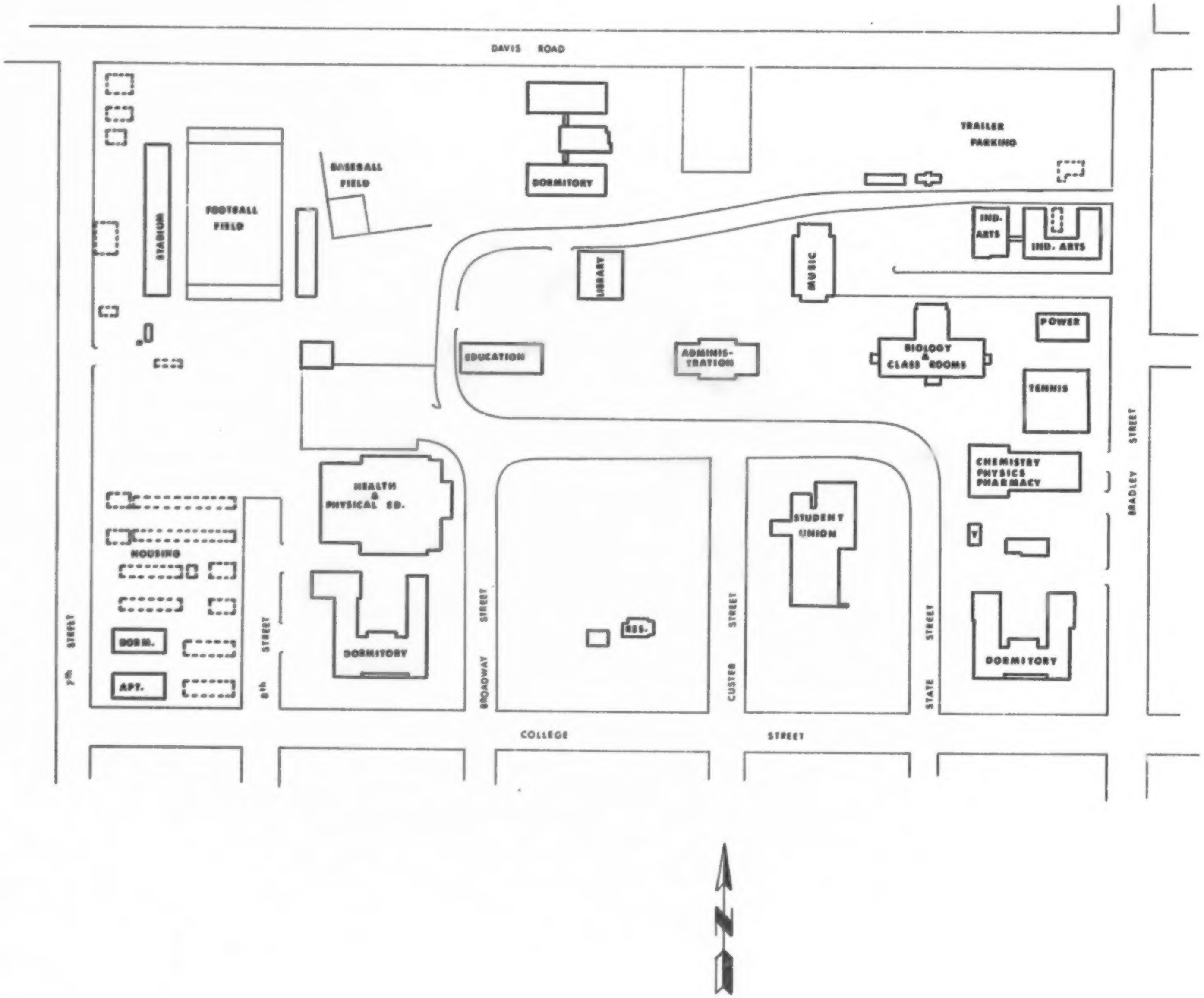

U.S. HWY. 64 & OKLAHOMA BLVD.
RESIDENT HALL
PRESIDENT'S RES.
ADMINISTRATION
COLLEGE AVE. & U.S. HWY. 281
FINE ARTS
STUDENT CENTER
LIBERAL ARTS
EIGHTH STREET
RESIDENT HALL
EDUCATION
POWER PLANT
LIBRARY
SCIENCE
RESIDENT HALL
INDUSTRIAL EDUCATION
MAINT.
PHYSICAL EDUCATION
STADIUM
FOOTBALL FIELD
MONROE
N

NORTHWESTERN STATE COLLEGE
ALVA, OKLAHOMA


N
N. 1st – HWY. 69 & 75
N. 2nd
N. 3rd
N. 4th
N. 5th
N. 6th
N. 7th
COLLEGE BLVD.
MONTGOMERY DRIVE
HOUSING
PARKING
PHYSICAL EDUCATION
STADIUM
FOOTBALL FIELD
STADIUM
TENNIS COURTS
TENNIS COURTS
PARKING
SHEARER HALL
HEATING
MAINTENANCE
DORMITORY
AMPHITHEATER
INDUSTRIAL EDUCATION
ELECTRONICS
METALS
BOOK STORE & HALLIE McKINNEY HALL
ELEMENTARY
FINE ARTS
CLASSROOM
PARKING
SCIENCE
HOME ECONOMICS
LIBRARY
ADMINISTRATION
PRESIDENT'S HOME
HOUSING
PARKING
PARKING
HOUSING

SOUTHEASTERN STATE COLLEGE

DURANT, OKLAHOMA

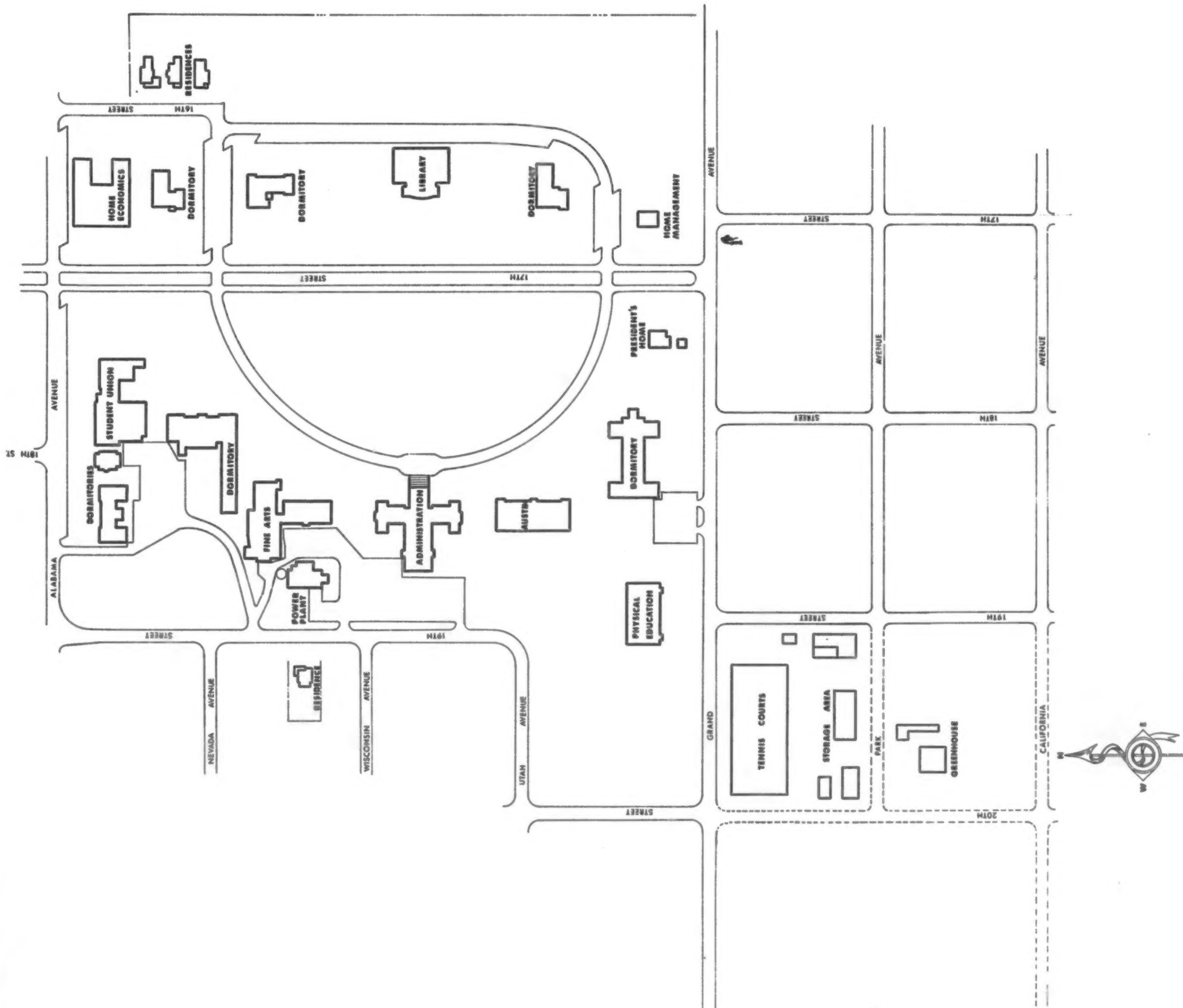

DAVIS ROAD
TRAILER PARKING
DORMITORY
BASEBALL FIELD
FOOTBALL FIELD
STADIUM
IND. ARTS
IND. ARTS
MUSIC
LIBRARY
POWER
BIOLOGY & CLASS ROOMS
TENNIS
EDUCATION
ADMINIS-TRATION
CHEMISTRY PHYSICS PHARMACY
HEALTH & PHYSICAL ED.
STUDENT UNION
HOUSING
RES.
BRADLEY STREET
DORM.
APT.
DORMITORY
DORMITORY
7th STREET
8th STREET
BROADWAY STREET
CUSTER STREET
STATE STREET
COLLEGE STREET
N

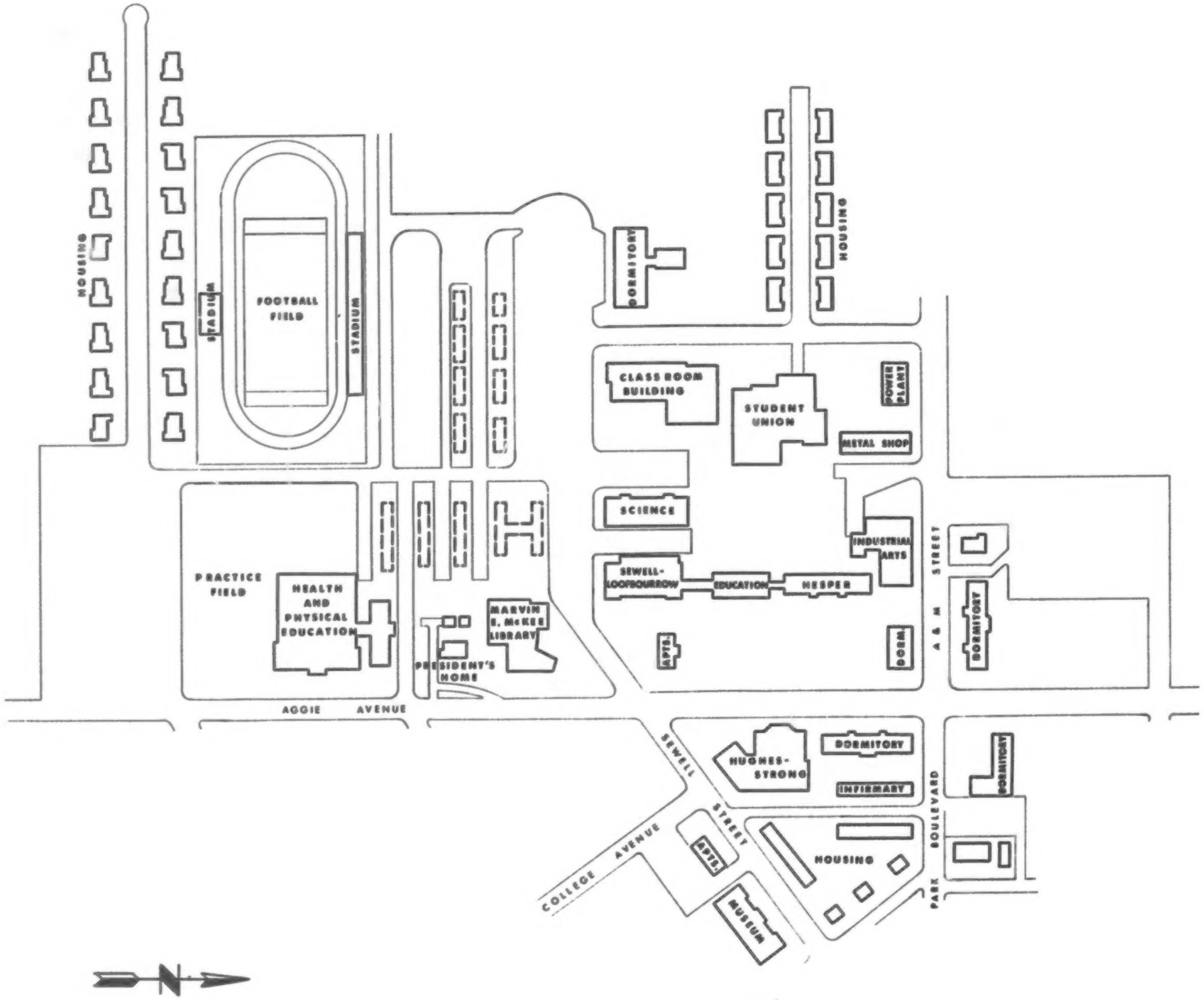
SOUTHWESTERN STATE COLLEGE

WEATHERFORD, OKLAHOMA

OKLAHOMA COLLEGE FOR WOMEN

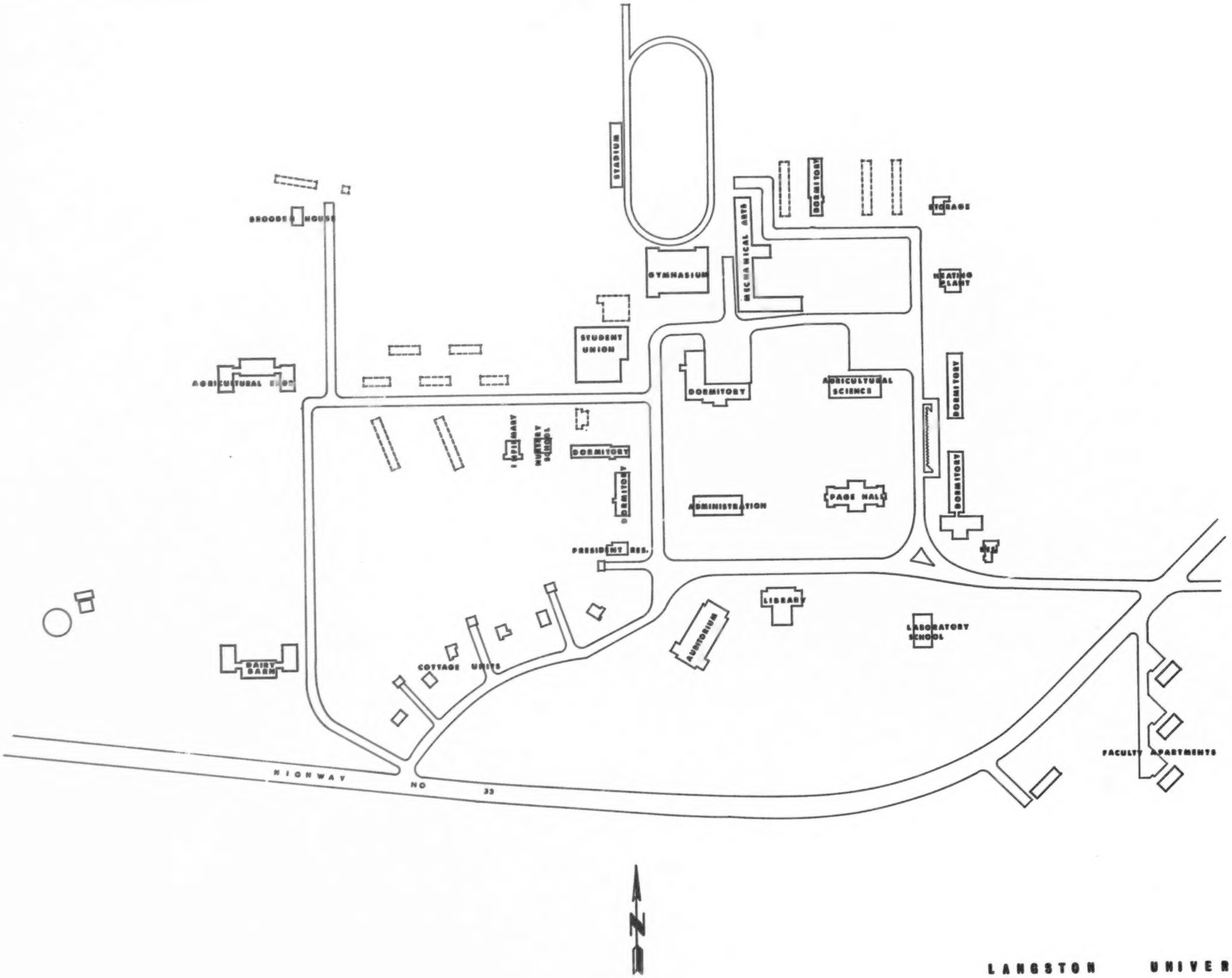
CHICKASHA, OKLAHOMA


RESIDENCES
16TH STREET
HOME ECONOMICS
DORMITORY
DORMITORY
LIBRARY
DORMITORY
HOME MANAGEMENT
AVENUE
17TH STREET
17TH STREET
PRESIDENT'S HOME
AVENUE
AVENUE
STUDENT UNION
DORMITORY
18TH ST
18TH STREET
AVENUE
DORMITORIES
ALABAMA
FINE ARTS
ADMINISTRATION
AUSTIN
DORMITORY
POWER PLANT
PHYSICAL EDUCATION
19TH STREET
19TH STREET
RESIDENCE
NEVADA AVENUE
WISCONSIN AVENUE
UTAH AVENUE
GRAND
TENNIS COURTS
STORAGE AREA
PARK
GREENHOUSE
CALIFORNIA
N
E
S
W
20TH STREET
GOLF COURSE
23RD STREET


HOUSING
STADIUM
FOOTBALL FIELD
STADIUM
HOUSING
DORMITORY
PRACTICE FIELD
HEALTH AND PHYSICAL EDUCATION
PRESIDENT'S HOME
MARVIN E. McKEE LIBRARY
CLASS ROOM BUILDING
STUDENT UNION
POWER PLANT
METAL SHOP
SCIENCE
INDUSTRIAL ARTS
SEWELL-LOOFBOURROW
EDUCATION
HESPER
APTS.
DORM
A & M STREET
DORMITORY
AGGIE AVENUE
SEWELL STREET
COLLEGE AVENUE
HUGHES-STRONG
DORMITORY
INFIRMARY
DORMITORY
APTS.
MUSEUM
HOUSING
PARK BOULEVARD
N

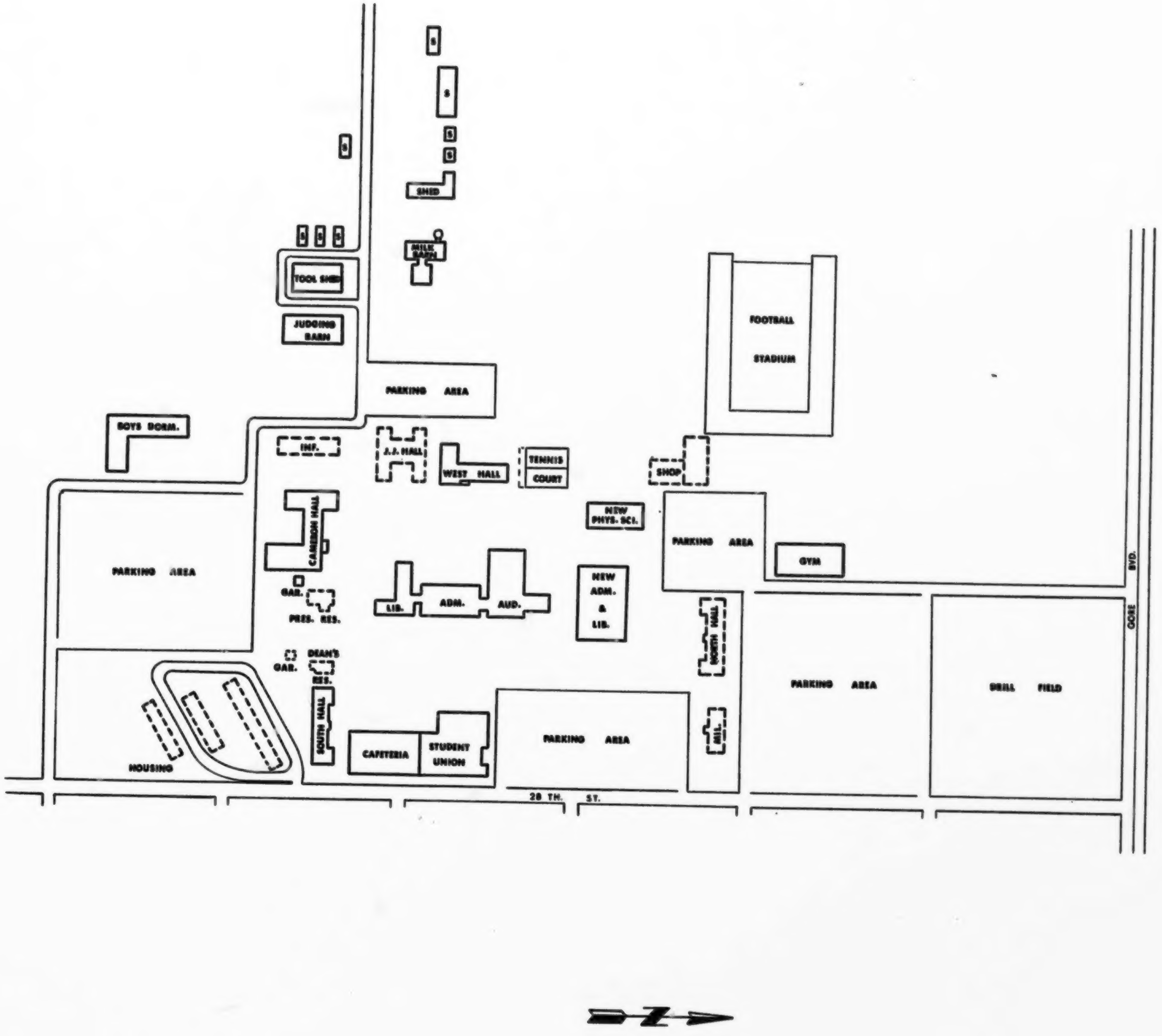
PANHANDLE A & M COLLEGE

GOODWELL, OKLAHOMA


STADIUM
BROODER HOUSE
MECHANICAL ARTS
DORMITORY
STORAGE
GYMNASIUM
HEATING PLANT
STUDENT UNION
AGRICULTURAL SHOP
DORMITORY
AGRICULTURAL SCIENCE
DORMITORY
INFIRMARY
NURSERY SCHOOL
DORMITORY
DORMITORY
ADMINISTRATION
PAGE HALL
DORMITORY
PRESIDENT RES.
LIBRARY
LABORATORY SCHOOL
AUDITORIUM
DAIRY BARN
COTTAGE UNITS
FACULTY APARTMENTS
HIGHWAY NO 33
N

LANGSTON UNIVERSITY

LANGSTON, OKLAHOMA


S
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SHED
MILK BARN
TOOL SHED
JUDGING BARN
PARKING AREA
FOOTBALL STADIUM
BOYS DORM.
INF.
J.J. HALL
WEST HALL
TENNIS COURT
SHOP
CAMERON HALL
NEW PHYS. SCI.
PARKING AREA
GYM
PARKING AREA
GAR.
PRES. RES.
LIB.
ADM.
AUD.
NEW ADM. & LIB.
GORE BVD.
GAR.
DEAN'S RES.
NORTH HALL
PARKING AREA
DRILL FIELD
SOUTH HALL
CAFETERIA
STUDENT UNION
PARKING AREA
MIL.
HOUSING
28 TH. ST.
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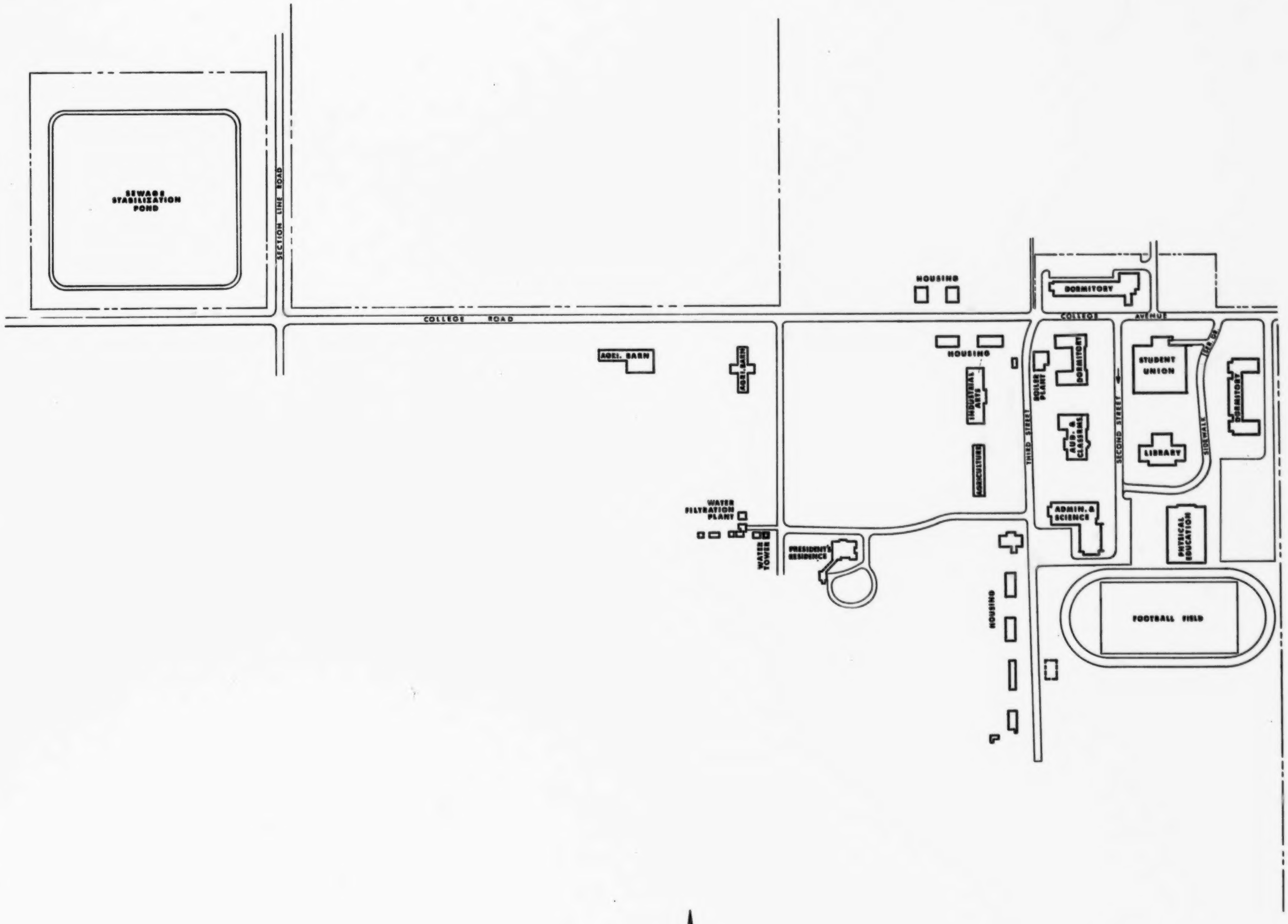
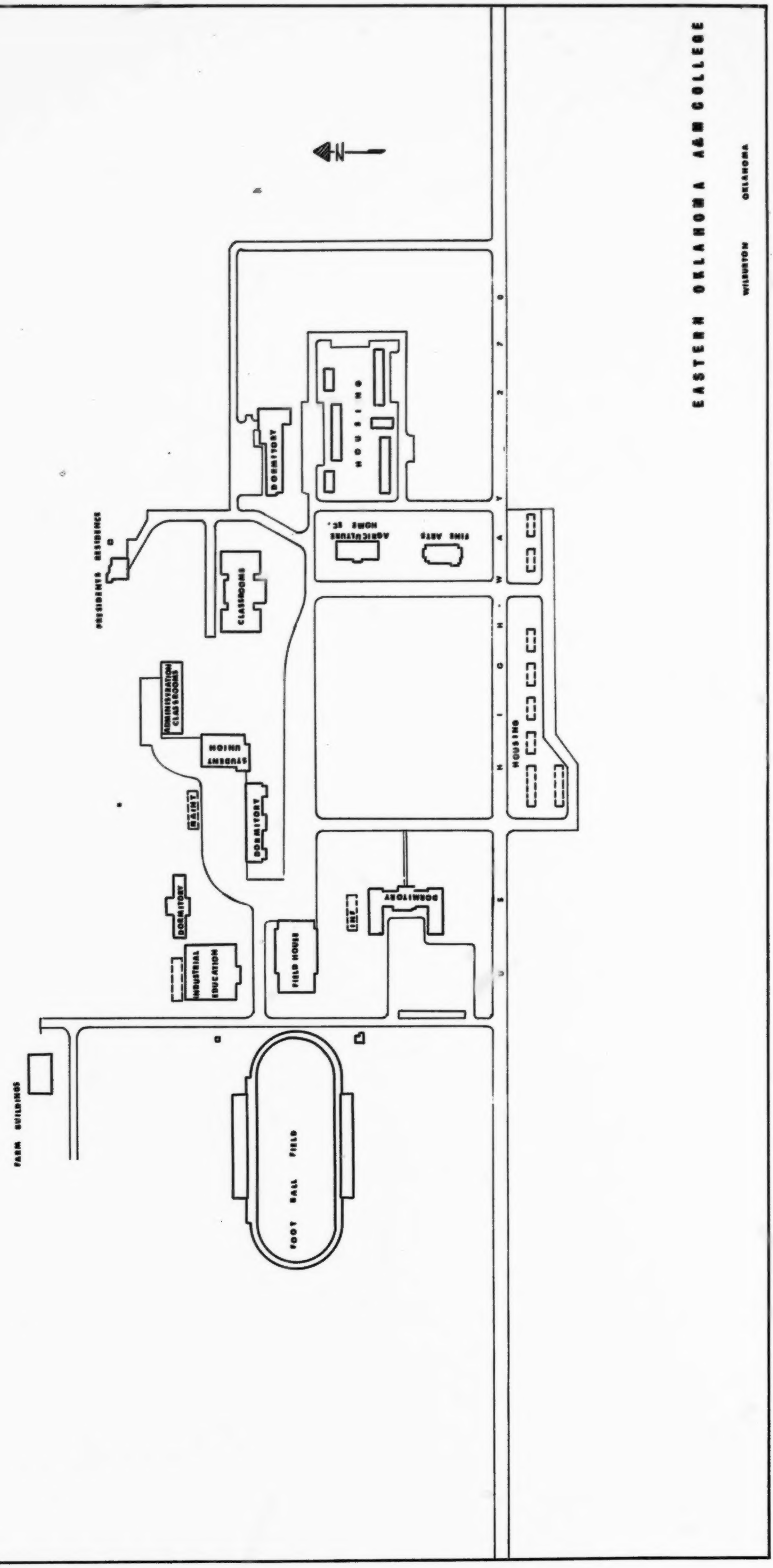
CAMERON STATE AGRICULTURAL COLLEGE

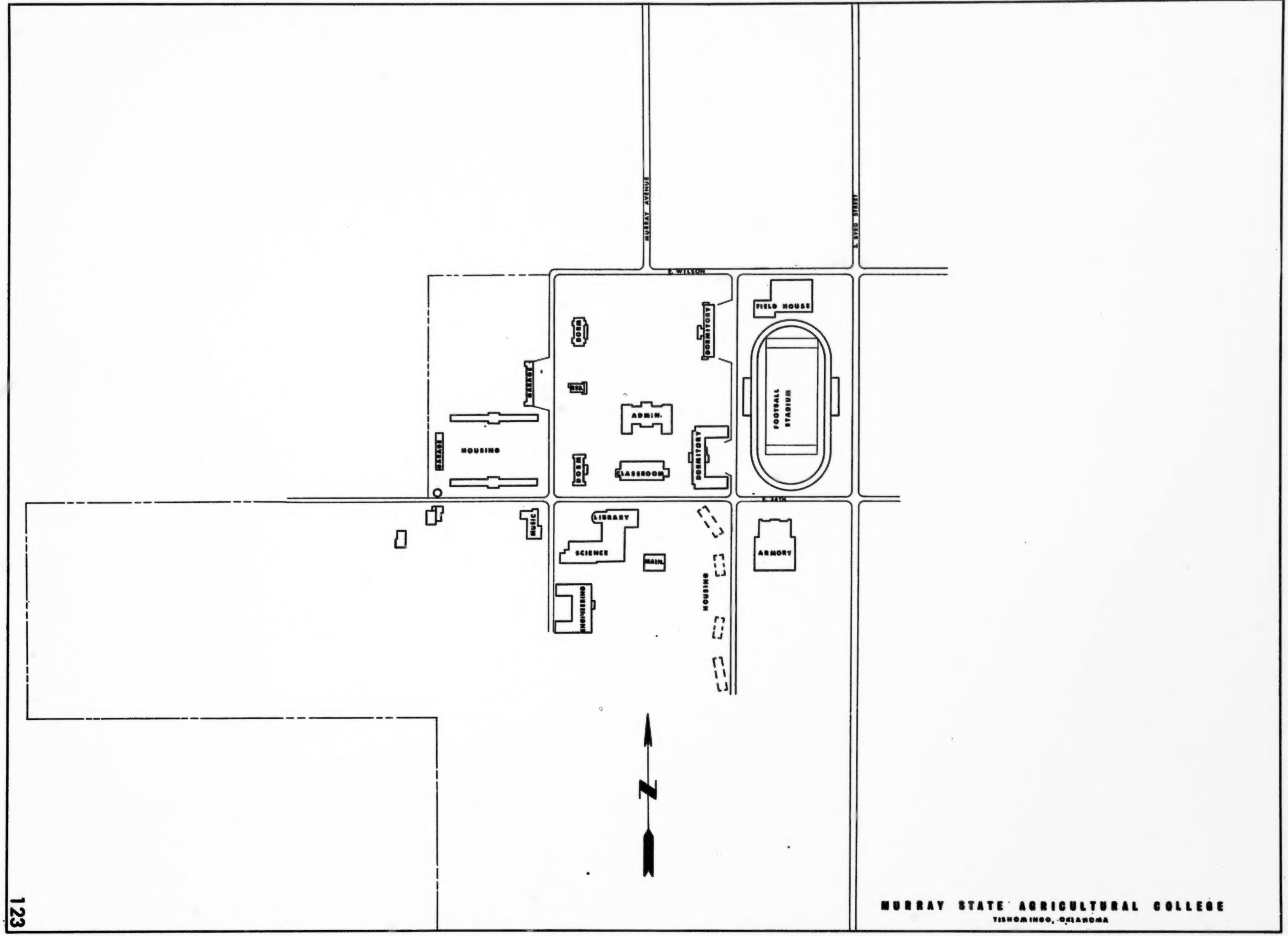
LAWTON, OKLAHOMA


SEWAGE STABILIZATION POND
SECTION LINE ROAD
COLLEGE ROAD
AGRI. BARN
AGRI. BARN
HOUSING
HOUSING
INDUSTRIAL ARTS
AGRICULTURE
WATER FILTRATION PLANT
WATER TOWER
PRESIDENT'S RESIDENCE
HOUSING
DORMITORY
COLLEGE AVENUE
BOILER PLANT
DORMITORY
THIRD STREET
AUD. & CLASSRMS.
ADMIN. & SCIENCE
SECOND STREET
STUDENT UNION
LIBRARY
1ST. ST
SIDEWALK
DORMITORY
PHYSICAL EDUCATION
FOOTBALL FIELD
N

CONNORS STATE AGRICULTURAL COLLEGE

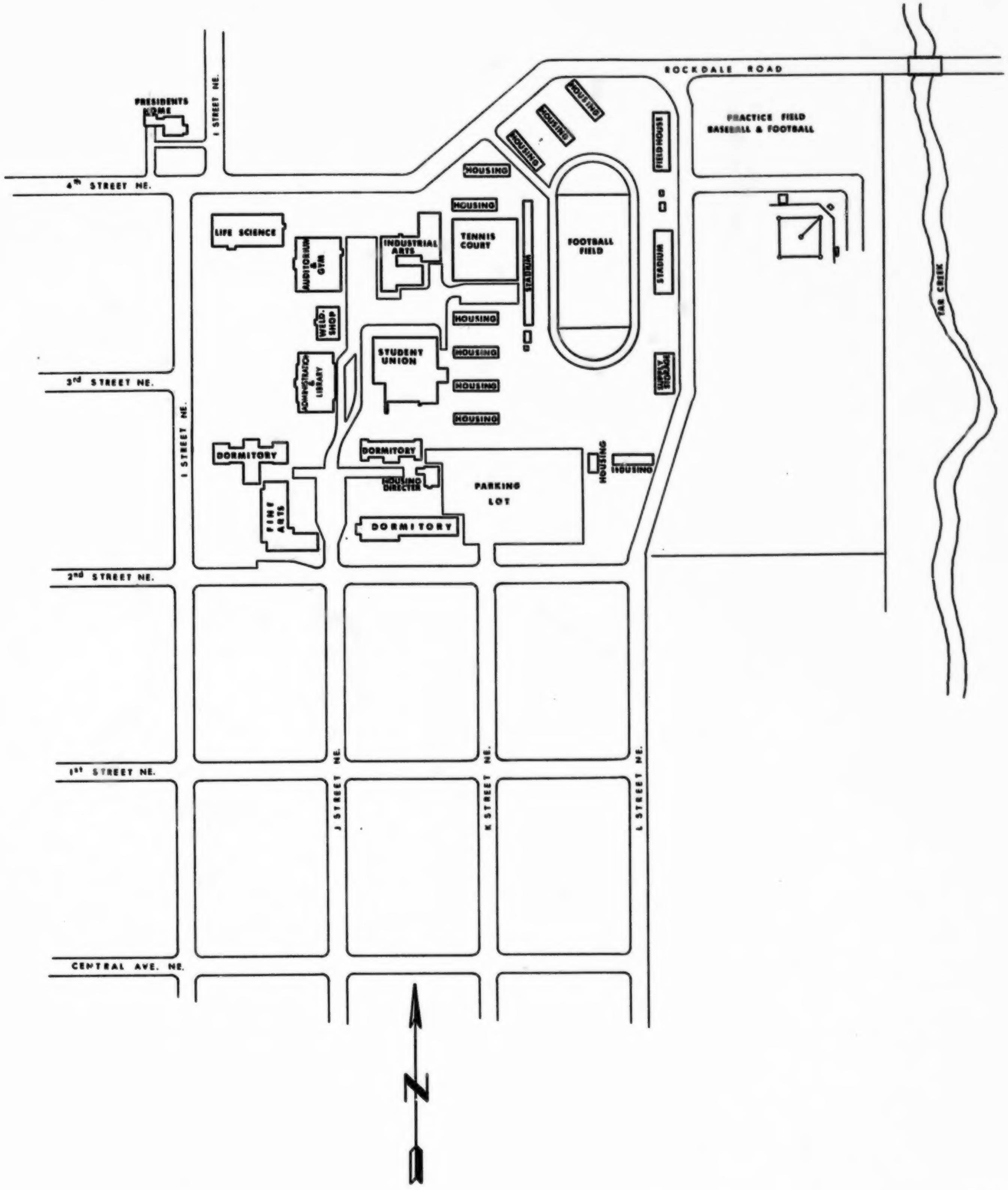
WARNER, OKLAHOMA


EASTERN OKLAHOMA A&M COLLEGE
WILBURTON OKLAHOMA
N
U S HIGHWAY 270
HOUSING
DORMITORY
AGRICULTURE HOME EC.
FINE ARTS
PRESIDENTS RESIDENCE
CLASSROOMS
HOUSING
ADMINISTRATION CLASSROOMS
STUDENT UNION
MAINT.
DORMITORY
DORMITORY
DORMITORY
INF.
INDUSTRIAL EDUCATION
FIELD HOUSE
FARM BUILDINGS
FOOT BALL FIELD

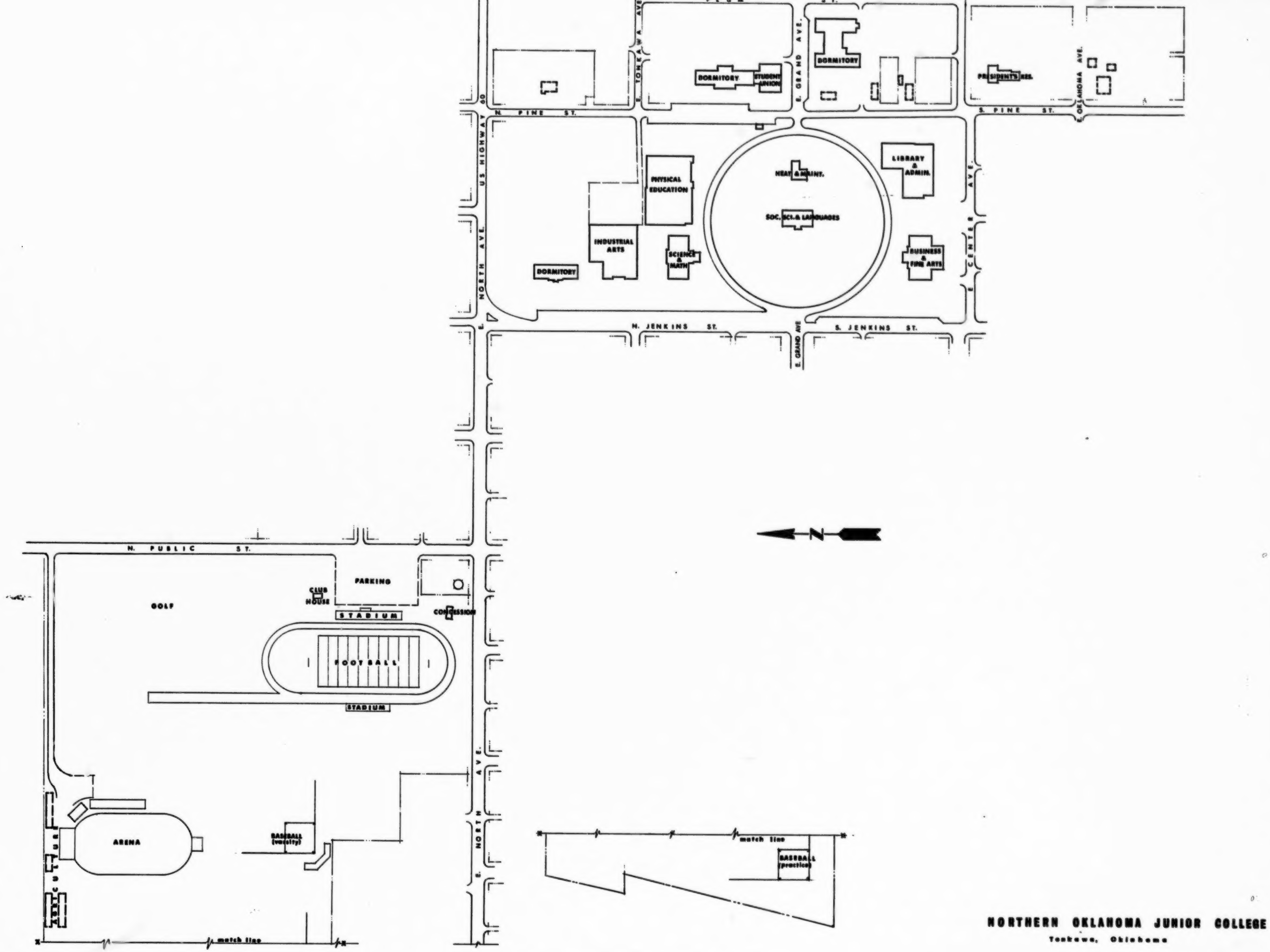


MURRAY AVENUE
E. 23RD STREET
E. WILSON
E. 24TH
FIELD HOUSE
FOOTBALL STADIUM
DORMITORY
DORMITORY
DORM
DORM
ADMIN.
CLASSROOM
GARAGE
HOUSING
GARAGE
MUSIC
LIBRARY
SCIENCE
MAIN.
ENGINEERING
HOUSING
ARMORY
N

MURRAY STATE AGRICULTURAL COLLEGE
TISHOMINGO, OKLAHOMA

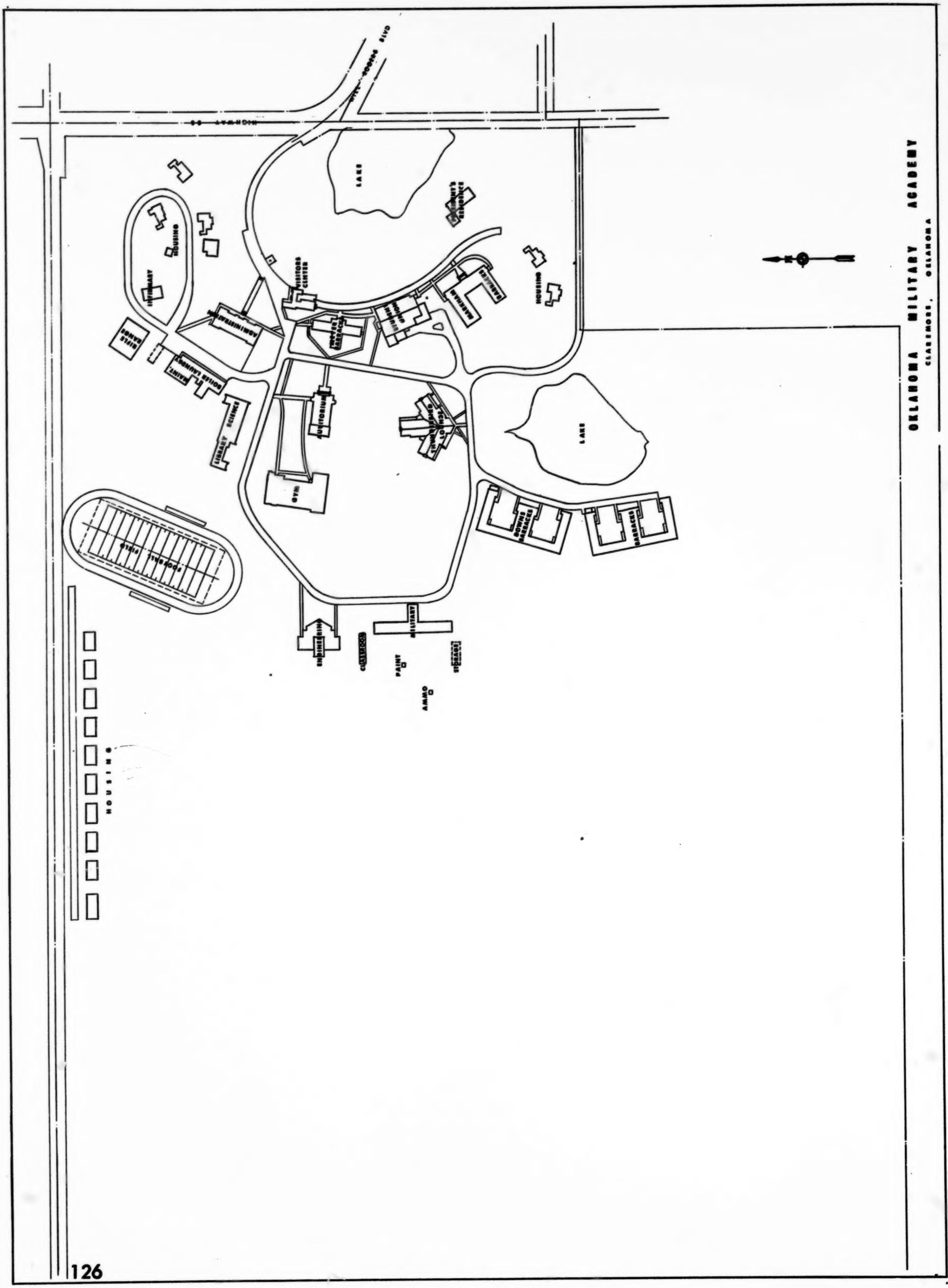

ROCKDALE ROAD
PRESIDENTS HOME
I STREET NE.
4th STREET NE.
3rd STREET NE.
2nd STREET NE.
1st STREET NE.
CENTRAL AVE. NE.
J STREET NE.
K STREET NE.
L STREET NE.
PRACTICE FIELD
BASEBALL & FOOTBALL
FIELDHOUSE
STADIUM
SUPPLY STORAGE
FOOTBALL FIELD
STADIUM
HOUSING
HOUSING
HOUSING
HOUSING
HOUSING
TENNIS COURT
INDUSTRIAL ARTS
LIFE SCIENCE
AUDITORIUM & GYM
WELD. SHOP
HOUSING
HOUSING
HOUSING
HOUSING
STUDENT UNION
ADMINISTRATION & LIBRARY
DORMITORY
DORMITORY
HOUSING DIRECTER
FINE ARTS
DORMITORY
PARKING LOT
HOUSING
HOUSING
TAR CREEK
N

NORTHEASTERN OKLAHOMA A&M COLLEGE
MIAMI, OKLAHOMA


E. OKLAHOMA AVE.
PRESIDENT'S RES.
S. PINE ST.
DORMITORY
E. GRAND AVE.
DORMITORY
STUDENT UNION
E. TONKAWA AVE.
N. PINE ST.
US HIGHWAY 60
LIBRARY & ADMIN.
HEAT & MAINT.
SOC. SCI. & LANGUAGES
BUSINESS & FINE ARTS
PHYSICAL EDUCATION
INDUSTRIAL ARTS
SCIENCE & MATH
DORMITORY
E. CENTER AVE.
E. NORTH AVE.
N. JENKINS ST.
E. GRAND AVE
S. JENKINS ST.
N
N. PUBLIC ST.
PARKING
CLUB HOUSE
GOLF
CONCESSION
STADIUM
FOOTBALL
STADIUM
E. NORTH AVE.
BASEBALL (varsity)
ARENA
match line
match line
BASEBALL (practice)

NORTHERN OKLAHOMA JUNIOR COLLEGE

Tonkawa, Oklahoma


OKLAHOMA MILITARY ACADEMY
CLAREMORE, OKLAHOMA
HIGHWAY 88
WILL ROGERS BLVD
LAKE
PRESIDENT'S RESIDENCE
HOUSING
VISITORS CENTER
INFIRMARY
HOUSING
ADMINISTRATION
RIFLE RANGE
MAINT., BOILER LAUNDRY
LIBRARY SCIENCE
MEYER BARRACKS
BARRACKS
HOUSING
AUDITORIUM
LAKE
GYM
FOOTBALL FIELD
DOWNS BARRACKS
BARRACKS
ENGINEERING
MILITARY
CLASSROOM
PAINT
STORAGE
AMMO
HOUSING